

# SD Times

SOFTWARE DEVELOPMENT

The Industry Newspaper for Software Development Managers

## RSS Is a Mess: Many Dialects, Lack of Unity

Microsoft embraces technology controlled by a handful of programmers

BY ANDY PATRIZIO

Microsoft's big bear hug of RSS at the Professional Developers Conference last month illustrates that yet another acronym is making its way into Internet user consciousness, but a look behind the curtain reveals a protocol with more dialects than the Chinese language and the potential for a real mess.

RSS, or Really Simple Syndication, is an XML-based protocol for aggregating Web site content. It sends down metadata, usually just a story's headline and subhead or some brief information. The RSS readers then present all of these headlines, and the user can decide which full stories to pull down.

But RSS is anything but unified. Many Web sites have three small orange boxes on their syndication page that read: "RSS 1.0," "RSS 2.0" and "Atom." It reflects the fragmentation of the protocol. The issue now is whether it can stay this way as it becomes more popular.

The idea, at the very least, has been around for years.

When Microsoft released Internet Explorer 4.0 in 1997, it created the Channel Definition Format for the Active Channel feature that did something similar to RSS, but it never caught on. That year, Dave Winer, a programmer at UserLand Software, designed his own XML syndication format for his Scripting News Weblog.

In 1999, Netscape introduced RDF Site Summary 0.9, the first version of RSS and use of the acronym, for its My Netscape portal. However, the one-time darling of Internet browsers would abandon RSS. A working group and mailing list would be established to maintain the format, while Winer would work on his own RSS protocol.

The working group would come up with what is now called the RSS 1.0 specification in December 2000. After some revisions, Winer would release RSS 2.0 in September 2002. Winer and UserLand would turn over ownership of RSS to his then workplace, Harvard

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## GPL 3.0 STILL A MYSTERY

New revision of open-source license rests in the hands of FSF's Stallman

BY ALEX HANDY

Conflicting reports about potential changes in the upcoming GNU Public License 3.0 have been flying around the Internet for months. Speculation is that the changes

could involve software as a service and patents. Only Richard Stallman, founder of the Free Software Foundation, creator of the GPL and a cantankerous defender of free software, knows for sure, and he's not saying just yet.

The Free Software Foundation has yet to set a date for the release of GPL 3.0, but has hinted that it should become open for comments by the end of 2005, or by early 2006.

Bernard Golden, CEO of Navica, an open-source implementation firm, has been following potential developments in the GPL. In an interview,

*The FSF says the changes are no big deal, yet it expects as many as 150,000 comments.*

—Bernard Golden, CEO Navica



he stated that the Free Software Foundation has been sending mixed messages into the channel.

"It's kind of a mystery as to what it's going to be," said Golden. "They're playing their cards very close to their chest. They are setting up an infrastructure for comments. They're expecting 150,000 comments. They've set up all these different subcommittees. They're clearly expecting a lot

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## A Look Beyond the Launch

Microsoft exec discusses Team System, trends for developers down the road

BY JENNIFER DEJONG

When Microsoft unveils the 2005 editions of SQL Server and Visual Studio, expected this month, the company will have essentially delivered the next generation of its developer tools, many years in the making. SD Times spoke with S. "Soma" Somasegar, corporate vice president of the developer division at Microsoft, about the launch, Team System, Microsoft's track record for shipping products on time, and key developer trends ahead.

**SD Times: How will the 2005 editions of SQL Server and Visual Studio impact the day-to-day experience of the development teams that adopt them?**

S. "Soma" Somasegar: With the launch of BizTalk Server 2006, SQL Server 2005 and Visual Studio 2005 [expected Nov. 7], we are delivering the core parts of the application platform that provides [development teams] with three high-level things: improved productivity, better insight into the business and a reliable infrastructure to develop on.

**What are the likely adoption scenarios for Team System [the**

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S. "Soma" Somasegar, Microsoft

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# Borland Ties Win32 and .NET IDEs Together

Company's single offering for C++, C# and Delphi links to Eclipse-based Core SDP

BY JENNIFER DEJONG

Borland Developer Studio, combining three previously separate offerings for Win32 and .NET developers into a single IDE, will ship by year's end, the company says.

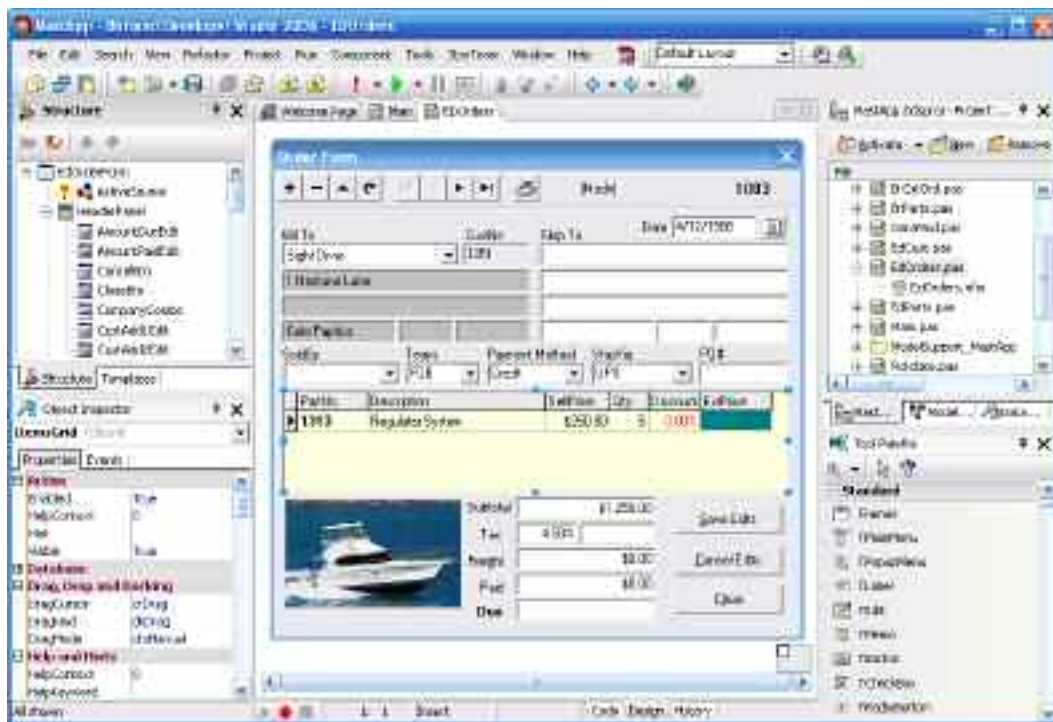
Developer Studio, which was unveiled last month and is priced starting at US\$1,090 per developer, includes Delphi 2006 (for Win32 and .NET), C++ Builder 2006 (for Win32) and C# Builder 2006 (for .NET), said Rob Cheng, Borland Software's director of product marketing. The new offering links to Core SDP, Borland's life-cycle IDE for Eclipse and Java developers, allowing companies with teams developing on Core SDP, as well as those building apps in Developer Studio, to create status reports that incorporate data from both types of projects, he said.

New to Delphi 2006 is better support for modeling, including the ability to "reverse engineer" class diagrams, where changes made to the code are automatically reflected in the model and vice versa. Delphi now includes the full feature set of Borland's Together modeling tool, which supports versions 1.5 and 2.0 of the Unified Modeling Language, said Michael Swindell, Borland's director of product management for Delphi. Also new is support for Borland's Enterprise Core Objects III framework, which provides services such as object-relational mapping and data persistence. "If you come from [the Java world], you take these services for granted," he said. But .NET

developers have typically had to build their own, he said.

New for C++ and Delphi developers, are "live design guides," which ease the process of laying out components on a form. Previously, developers would have to keep in mind, for example, that a button should be placed 7 pixels to the right of a text box, said Swindell. Now that knowledge is built-in. Live templates, new for all three Developer Studio offerings, boost productivity by auto-completing code entries, according to the company.

Other Developer Studio updates include the rename refactoring for C++ developers, and a host of other refactorings for C# and Delphi developers, said Cheng. Refactoring is a means of restructuring code to make it more efficient and easier to maintain. ■



Borland Developer Studio combines Delphi, C++ Builder and C# Builder into a single IDE for Windows and .NET developers, and is expected to be generally available by year's end.

## NetBeans Beta Hits the Internet

Sun defends its IDE, says competition breeds innovation

BY ALEX HANDY

Sun Microsystems is nearing completion of NetBeans 5.0, its open-source Java IDE. A beta made available to developers shows improved CVS support and the Matisse GUI builder.

Dan Roberts, director of developer tools marketing for Sun, said work with the Java team building the core SDK resulted in a new layout manager for Matisse. "This enables you to drag and drop various components into your visual design and have those compo-

nents comply to the graphical guidelines for the platform," he explained.

Roberts also highlighted the new Web services capabilities included in NetBeans. "We've created a very simple client generator to show how the Web services you've created can be consumed on the other side," he said. "You can now rapidly generate a client to be used on your APIs."

Roberts said that code management also was addressed in the new version. "We've enabled a whole host of new

refactoring methods to enable developers to more easily manage their existing code, and during the iterative process make changes to the code."

But with Eclipse rapidly taking over the IDE space, NetBeans is facing much increased competition in its market space. Roberts said Sun remains undaunted in its efforts.

"We fundamentally believe that the Java community is best served by choice in their community," said Roberts. "We're not looking to replicate a world of the monolithic sin-

gular vendor IDE. NetBeans provides some advantages, [such as] out-of-the-box support for a variety of development technologies, everything from core J2ME to J2SE to J2EE. We just believe that at the end of the day the competition between the two environments and communities is only better for the Java community as a whole. We certainly know and recognize that Eclipse has made NetBeans better, and we hope that NetBeans makes Eclipse better going forward as well." ■

## RUBINSTEIN TAKES HELM OF SD TIMES

David Rubinstein has been named editor-in-chief of SD Times.

Rubinstein, who previously served as editor of SD Times, assumes full day-to-day responsibility for all phases of the newspaper's editorial content and production, from story development through editing and layout. As editor-in-chief, he guides the content of SD Times to ensure that the publication best serves its readers

and the industry.

Alan Zeichick, a company founder who had served as editor-in-chief of SD Times since its launch in February 2000, assumes the title of editorial director and remains responsible for the strategic direction of all BZ Media print and digital publications, Web sites and events.

"As the first editor to join BZ Media, David has been indispensable in the launch of SD

Times, and its evolution to the leading news publication in the software development industry," said Zeichick. "It is my pleasure to turn the reins of SD Times over to David. Under his vision and leadership, the publication will reach new heights of editorial and journalistic excellence."

Before joining BZ Media in the fall of 1999, Rubinstein served as a deputy editor of the Long Island edition of Newsday, the sixth largest daily newspaper

in the United States. He has a B.A. in journalism from the University of Maryland, and also serves as an adjunct professor at Adelphi University.

SD Times currently has an audited circulation of more than 55,000 software development managers, and will be increasing its circulation to 60,000 in 2006. BZ Media also publishes Software Test & Performance magazine, and produces three conferences: Software Test & Performance Conference, EclipseWorld and Software Security Summit. ■



David Rubinstein, newly appointed editor-in-chief of SD Times.



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# A Road Map for SOA Implementation

Companies create maturity model to help with architecture design

BY ALEX HANDY

Three SOA companies have collaborated on an SOA Maturity Model to take some of the mystery out of creating a service-oriented network of systems.

A white paper describing the model, created by AmberPoint, Sonic Software and Systinet, was released to the public on Oct. 27. The model lays the groundwork for a five-step process toward service-oriented architecture implementation.

These steps follow a path from initial services implementation to refinement to the linking of internal and external services, and finally, to the optimization of those services within the organization.

## 'IN THE GRAND SCHEME'

Ian Bruce, director of marketing at Systinet, said the companies got together "because we felt that IT managers and IT architects needed a framework [to] think about where they are in the grand scheme of things. They could think about what they have [and] what they don't have. The way the maturity model is built, we based it on some existing models. It was also based on some research written by Randy Heffner at Forrester Research."

Bruce went on to describe some of the steps involved in developing SOA within an organization.

"Most people start with a bottom-up phenomenon," he said. "A developer or project manager will recognize that Web services represent a cost savings. As Web services start to proliferate, people start to think about 'How can I deal with scaling problems? How can I deal with security problems? How can I make them governable.' It's the problems of success, so now you get into stage two and three where you start to think about business services, services that have governance built into them. You're now climbing that pyramid called the maturity model."

Jason Bloomberg, senior analyst at ZapThink, said that

the SOA Maturity Model was a good document, but it may confuse the industry.

"We would say that it's perfectly good in and of itself,"

said Bloomberg. "But it's misnamed. It's a services maturity model. The difference is it doesn't talk about the level of architectural maturity, only

the services maturity."

Bloomberg said IBM has been working on its own SOA maturity model, but he added that the timing and informa-

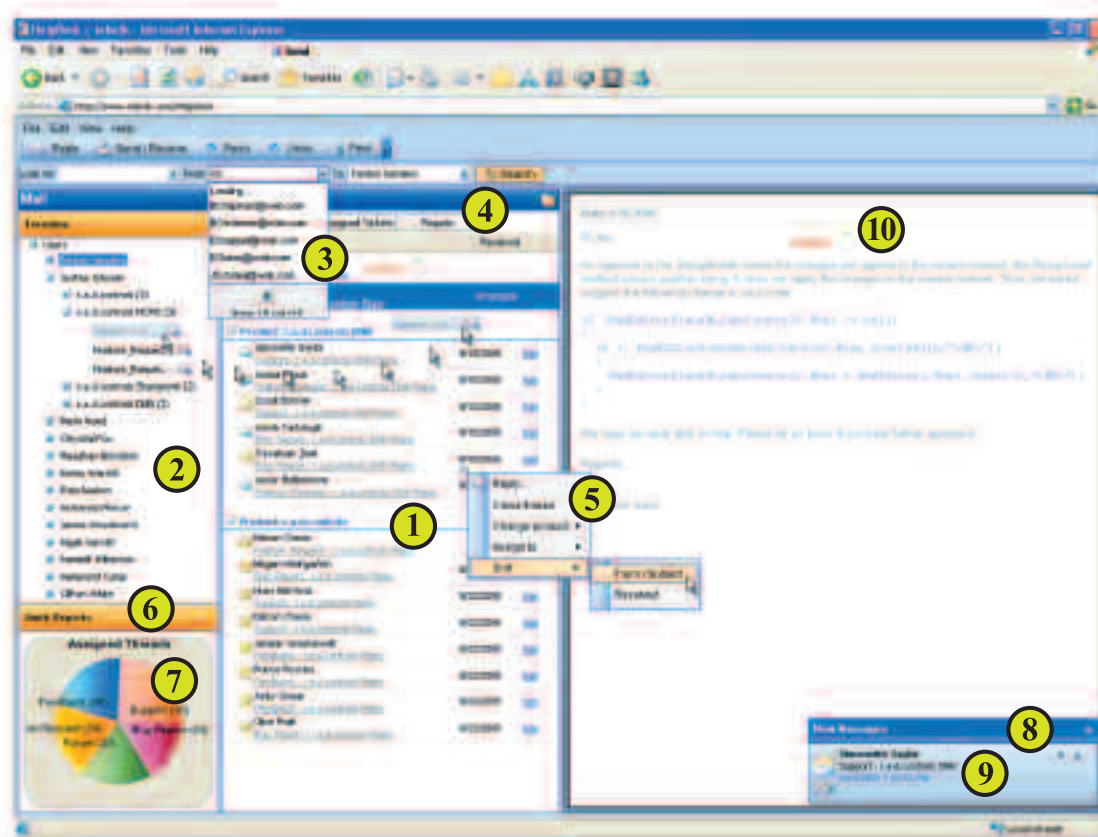
tion are as yet unavailable.

The SOA Maturity Model white paper is available now from the Web sites of Sonic, Systinet and AmberPoint. ■

# none

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# Mercury Optimizes Product Line Into One Suite Package

BY ALEX HANDY

Mercury Interactive, which made a flurry of product announcements at its annual convention in Las Vegas last month, has created the Busi-

ness Technology Optimization Enterprise suite of tools, which includes software to manage an application's change and performance life cycles.

Mercury vice president of

product marketing Jonathan Rende said the new BTO Enterprise offering is an attempt by his company to further integrate its offerings into a more cohesive package. The

suite includes all of Mercury's optimization and performance enhancement tools; Quality Center 8.2, Availability Center 6.0, Performance Center 8.1 and IT Governance Center 7.0 all were

announced at the convention.

Rende went on to detail the updates offered within BTO Enterprise. The new version of Quality Center "brings a brand-new edition of the Quality Center dashboard that measures and manages quality with 29 out-of-the-box metrics, which we call key performance indicators," he said. Rende also stated that the new version of Quality Center now offers support for Mercury WinRunner.

Of the new version of Availability Center, Rende said that "because of the application mapping integration, we now provide a configuration management database, we have a new edition of our real user monitoring that's tightly integrated with our performance testers, and we can provide that information upstream to testers."

Rende said Performance Center now includes a new product called Center Management. "In a nutshell, we've taken a part of our governance and customized it for running a center of excellence for performance testing. We've got a new edition of our enterprise diagnostics; now we isolate exactly where a problem is, but this is integrated with the performance testing life cycle to diagnose problems even before applications get to performance testing."

Finally, of the Governance Center, Rende said that Mercury has developed a new method for optimizing software development, using the same techniques used in air traffic controlling. The new version of the Governance Center, he said, will be simple to deploy thanks to what he calls a zero client: a client application that runs with no need to download code.

Mercury is offering the BTO Enterprise and its other tools through Mercury Managed Services, which allows organizations to use Mercury products as hosted services instead of traditional in-house software. Of these updates, only Quality Center and Performance Center are available today. The Availability Center will ship some time in November, and the IT Governance Center will follow in December. ■

## It's amazing what you can do with the right tool!



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2. Supremely accomplished or skilled
3. Complete



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# SAP's SOA Strategy Slowly Solidifies

## NetWeaver plays to emerging service-oriented architecture demands

BY ALEX HANDY

The world's fourth-largest software company has not been standing still in the SOA field.

Germany-based SAP's NetWeaver platform has been expanded over the course of the past year to include new features

and to prepare for the fiercely competitive SOA marketplace.

Ziv Carthy, vice president of developer programs at SAP,

said the company is basing NetWeaver around what he calls enterprise service architecture, or ESA.

"The intention for SAP," said Carthy, "is to provide an integrated stack of components that will ultimately enable composition of components on top of existing applications. Practically, NetWeaver is a composition stack that enables a developer to connect to [a] MySAP business suite or to any other competing application, assuming it is service-enabled, and compose applications on top of it."

Carthy continued, "What is really unique about NetWeaver is the whole notion of service enablement. NetWeaver as a composition platform includes the service repository. SAP is taking huge efforts in service-enabling its applications, the core ERP and CRM, and creating a master repository for services. NetWeaver is the platform that hosts this inventory and the platform that provides modeling tools. And I think this is really the key unique feature of NetWeaver—the ESA enablement."

Carthy said that SAP also is working to make NetWeaver a total solution for other environments. "When we talk about enterprise services using the completely standard Web services model," said Carthy, "we put semantics in front of it. That enables interoperability between systems."

Carthy went on to say that SAP has been working to service-enable its product line since 2003, and expects that all of its offerings will be Web services-enabled by 2007.

### 'SHOVELS AND THE GOLD'

Jason Bloomberg, senior analyst at ZapThink, said that SAP seems to understand the purpose of SOA, but still has a long way to go to implement its vision.

"They're doing a lot more than just moving into the Web services space," said Bloomberg in an interview. "They're trying to build an entire platform for Web services. They're trying to sell the shovels and the gold at the same time. They also want to make sure companies use the SAP platform. They really do get the role of SOA, that it's not about the infrastructure—it's about the services. But the real win is in the enterprise services architecture, which is the service on top of NetWeaver. The downside is it's not ready for prime time yet. It's a lot of tech they have to create." ■

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# Altova's XML Tools Focus on Semantics, RDF

BY ALEX HANDY

While it's still 2005 for the rest of us, Altova has already flipped the calendar ahead to next year with the release of its 2006 line-up of XML tools.

New in this revision of the

Altova XML Suite is the ability to create Web services using a point-and-click interface without writing actual code. The roster also includes a new tool, Altova SemanticWorks 2006, which is designed to ease the handling of

RDF and OWL coding.

Chief among the updates for Altova's product line is compliance with the W3C's new specifications for XSLT 2.0, XPath 2.0 and XQuery. Support for these specifications has been

added to XMLSpy 2006, MapForce 2006, StyleVision 2005r4 and SchemaAgent 2006.

Perhaps lost in the 2006 releases is StyleVision 2005r4. Tim Hale, director of marketing at Altova, said in an interview

that "the major enhancements to StyleVision were not ready yet. We are doing quite a significant effort on StyleVision 2006 that will be released shortly, though I can't say when yet." Hale went on to say that customers who purchase Altova's XMLSuite will receive StyleVision 2006 for free when it is released.

The release of SemanticWorks 2006 is intended to take advantage of the emerging world known as the Semantic Web, aka ontology, the practice of categorizing and tagging data with information such as its subject and author. Ontology has become a popular topic, particularly in the so-called blogosphere, where link aggregation and categorization sites (del.icio.us) have been propagating.

## RDF, OWL

Fortunately for XML coders, the Resource Description Framework (RDF) has been around since 1999. RDF, published by the World Wide Web Consortium, is a metadata model for XML that allows for the description of any given object within an XML document. The model is akin to those used in library card catalogs, allowing for information such as the publisher, author and subject of a forthcoming object to be described.


Therefore, a document about "The Simpsons" could be tagged as related to cartoons, humor and animation, as being created by Matt Groening, and as being published by Fox. Thus, when searching through XML objects, search algorithms would have an easier time assessing the relative usefulness of an XML document based on its RDF tags.

It should be noted, however, that the initial 1999 specification for RDF has since been thrown out in favor of the revised version introduced by the W3C in 2004.

Also supported by SemanticWorks is the Web Ontology Language, or OWL, a vocabulary extension for RDF.

"OWL builds upon the metadata defined in RDF by creating complex ontologies that allow us to more accurately describe the relationships between different types of resources," said Erin Cavanaugh, Altova's product manager for the XML product line. "OWL is really more robust than RDF, which is the basic semantic syntax. It really allows you to create complex systems." ■

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# Flashline: SOA Natural Progression for Asset Reuse

BY DAVID RUBINSTEIN

Calling service-oriented architecture a natural progression from its work on asset reuse and optimization, Flashline later this month is expected to release Flashline for SOA, an extension of the company's flagship asset management system.

The new software includes the Flashline repository with asset types for Web services, WSDL and schemas, and a graphical navigator to help locate the necessary asset, according to Flashline CEO Charles Stack. There also is UDDI support built in, which allows users to browse other registries, import Web services with WSDLs and schemas, and to build a tree to show the relationships of all the assets, he added.

"We enable governance around Web services," Stack said. "The number of potential interconnections in a dynamic, loosely coupled architecture can be large, and managing those relationships is critical to success."

Stack noted that Flashline for SOA also enables project managers to track Web services consumption and WSDL use with Flashline's software file

identification (SFID) technology. SFID allows developers to tag particular assets so that their use can be traced throughout an organization's applications, he explained when

SFID was announced in June.

Organizations could use Flashline for SOA to decompose business processes into Web services, for example, and then publish them to Flash-

line, where they can be prescribed for use by project teams, Stack said. "Businesses are managed as a suite of business processes," he said. "Those [can be] Web services,

or human-to-human interactions. Businesses can compose them in whatever way they need to. That's the agility everyone talks about" with service-oriented architecture. ■

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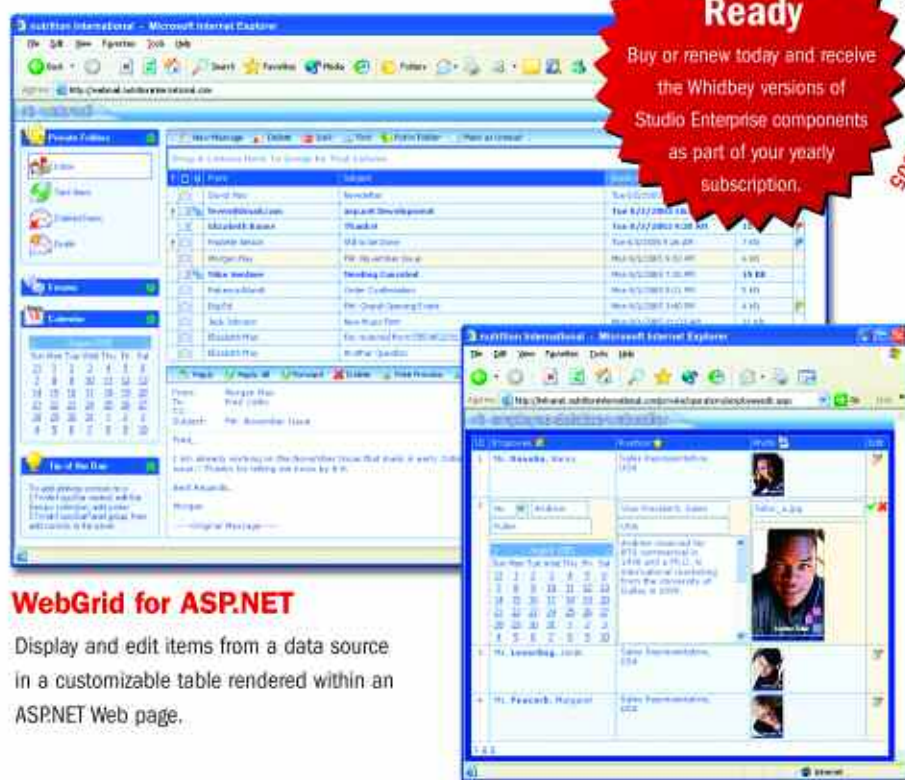
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# Microsoft Embraces Open Source...Sorta

## Company adopts open-source code for its next-generation clustering servers

BY ANDY PATRIZIO

You may remember that back in 2001, Microsoft chief executive Steve Ballmer called open-source software development "a cancer." Yet even as he was saying this, Microsoft was quietly helping support one of the more widely used open-source technologies, which it is now adopting.

Microsoft plans to include the Message Passing Interface library developed by the Argonne National Laboratory (ANL) in its Windows Server 2003 Compute Cluster Edition, which is in beta now and due the first half of 2006. The Compute Cluster Edition is designed specifically for high-performance parallel processing to crunch large amounts of data.

ANL, a U.S. Department of Energy laboratory operated out of the University of Chicago, has been developing its Message Passing Interface technology, called MPICH2 (the "CH" stands for "chameleon"). MPICH2 has been on the open market for more than a decade thanks to an open license agreement, and has been used by Compaq, Convex, IBM, NEC and SGI in their MPI-based solutions.

It was MPICH2's popularity that led to Microsoft's decision. "This collaboration enables ISV partners to use existing and familiar tools, with MPICH2 for parallel processing," said Kyril Faenov, director for high-performance computing at Microsoft.

"What we realized was for MPI to be adopted, computer vendors would have to be willing to make this software available on their systems. So we picked a BSD-like license that allows derivative works," said Bill Gropp, senior computer scientist and associate division director at ANL. Some people have downloaded the code and never contacted ANL again, while others have made contributions back to the developers, he added.

For the longest time, clustering was a Unix feature, but Microsoft has quietly supported a programmer at ANL to foster development of a Win32 API version of MPICH2 for

the past four years, according to Rusty Lusk, senior computer scientist and acting director of the mathematics and computer sciences division of ANL.

"They are not interested in just absorbing the code, but rather, continuing to develop it along with us," he said.

Lusk said he wasn't worried

about Microsoft's past slams on open source. "We're technical guys, not political guys. To us, it was more surprising that Microsoft saw high-perfor-

mance computing and clustering of machines as something they wanted to do, rather than that they decided to use MPICH2," he said. ■

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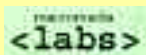
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/n software AS2 Adapter for BizTalk 2004

## News Briefs

## COMPANIES

**Altiris** has released the Altiris Developer Program and an SDK designed to help users integrate Altiris solutions with third-party applications. Altiris, in its service-oriented architecture, provides a centralized configuration management database, efficient communications, and policy and notification engines . . . **Macromedia**



has announced Macromedia Labs, a new site on macromedia.com, where developers can download early versions of Macromedia technologies. Macromedia Labs enables developers to help shape development, provide feedback and gain expertise.

## NEW PRODUCTS

London-based Logic Programming Associates has released **Chimera**, a development tool for creating knowledge-based applications. The new tool takes advantage of the company's support for Windows Sockets TCP/IP built into WIN-PROLOG, its Windows-based Prolog compiler, to enable AI developers to create distributed, rules-based systems that respond to events intuitively, according to the company. Chimera costs between a few hundred and a few thousand dollars . . . **JetBrains** has announced the release of **JetBrains TMate 1.6** to handle version control management inside the company's IntelliJ IDEA development environment. The add-in enables users to track modifications and generate custom reports by group, and it enhances IntelliJ IDEA's CVS support with commit and update functions . . . Build software company Electric Cloud has released **eDepend**, a new tool said to eliminate errors in incremental builds that arise from missing dependencies. By automatically tracking dependencies, the tool lets companies get away from having to perform multiple full builds for small changes . . . Baltimore-based Artifact has made its **Lighthouse** global application development service available. The suite of on-demand services includes CRM modules for tracking milestones, tasks and delivery dates; software delivery management modules that track and manage requirements, defects, test plans and results, and security; dashboards that show cost and schedule variances in real time; and a reporting module. The service costs US\$60 per user, \$500 per project for unlimited users, or \$3,000 for unlimited projects and users . . . Quest Software has announced **Toad for SQL Server 1.0**, a development environment that includes a SQL Editor for stored procedure construction, a debugger and a SQL



tuner for statement optimization. It also includes Knowledge Xpert for understanding SQL Server syntax logic. Available last month, its cost is US\$470. It supports SQL Server versions 7.0, 2000 and 2005 . . . Codejock Software has released four new customizable user interface component product lines—**Xtreme TaskPanel**, **Xtreme ShortcutBar**, **Xtreme Report** and **Xtreme Calendar**—for developing ActiveX MFC and .NET platforms. The company also has released an update to **Xtreme Toolkit Professional Edition for Visual Studio .NET**, including Xtreme Suite, Xtreme Command Bars, Xtreme Docking Pane and Xtreme Property Grid . . . Cape Clear Software has released a version of its **True Enterprise Service Bus for WebSphere**, an ESB that works with IBM's application server, message queuing middleware and WebSphere Studio tools. The software also supports iSeries midrange computers and integrates with DB2 and Tivoli tools . . . LogiXML is offering **LGX Info Flex Edition**, a new version of its LGX Info business intelligence software designed to let end users perform dynamic data analysis using an Excel-style analysis grid.

## UPGRADES

TIBCO Software has made its **Enterprise Backbone**, **Business Integration** and **Business Optimization** software available for Apple's Mac OS X Server version 10.4, called "Tiger," for companies choosing to deploy service-oriented architectures in a Macintosh environment. Enterprise Backbone provides messaging and monitoring; Business Integration provides enterprise service bus functionality along with service orchestration, application integration, B-to-B integration and

► continued on page 26

# ALF to Bid Bye-Bye to Point-to-Point Integrations

## Compuware latest to lend support to Eclipse project

BY JENNIFER DEJONG

What does ALF stand for?

Technically speaking, "Alien Life Form," the 1980s television sitcom puppet, is correct. But the more apt answer for software development managers is "Application Lifecycle Framework."

The Eclipse project addressing that issue got some attention last month as Detroit-based toolmaker Compuware pledged its support for the Serena-led effort that got under way in July.

ALF aims to eliminate a problem that has long plagued toolmakers and their customers: writing point-to-point integrations that allow offerings from different toolmakers to exchange data. In a perfect world, customers would buy requirements management, issue tracking, change management, bug tracking, build management and other tools from a single provider, which would ensure everything worked together, said Kevin Parker, vice president of market development for San Mateo,

Calif.-based Serena. "But we can't get customers to buy everything we do."

Dealing with integration demands hurts all players involved. "Customers don't want to spend four hours on the phone with tech support, changing the registry settings," he said. And toolmakers much prefer to allocate resources to product improvements than to integration efforts. The problem is compounded each time a toolmaker updates its product, breaking the earlier integration, added Parker. "Customers say: 'I'll stick with the older version until you do the integration.' And that, in turn, forces software vendors to maintain earlier versions."

### ALF ALPHA

ALF, essentially a tool integration framework, will rely on Web services to manage interactions between applications, Parker said. The project, which plans to deliver a working alpha version in January 2006, followed by version 1.0 in September, is based on ALF events, essentially a

vocabulary that describes concepts that are common to the application life cycle, such as requirement added, new bug tracked or relationship created. ALF members, including Catalyst Systems, Cognizant Technology, Secure Software and Segue Software, are expected to contribute a common set of WSDL specifications that define such events, Parker said.

Compuware did not provide details of its planned donation. The company also announced last month that it has joined the Eclipse Foundation as a strategic developer, earning a seat on the board of directors. In addition to contributing to ALF, it expects to announce in the near future plans to lead its own Eclipse project, also in the "application life-cycle space," said Mike Burba, Compuware's director of marketing for application development. "We need an infrastructure that will allow our tools to work together," added Parker. "Otherwise [we are] living in a world where a wrench fits only one socket." ■

# Oracle: TimesTen Equals Performance Times Four

BY EDWARD J. CORREIA

Claiming a fourfold speed improvement, Oracle in mid-October released TimesTen In-Memory Database 6, which the company says also now supports the Java Message Service, tightens integration with 10g and improves SQL syntax and JDBC support. This is Oracle's first update to the TimesTen real-time transactional database since it acquired the company in June.

According to Tim Shetler, Oracle's vice president of product marketing, major effort was focused on improving the volume of updates that could be stored in a TimesTen cache so that they could be fed to an Oracle database at a rate it can consume. "There could be 10,000 events a second flowing through an enterprise. Oracle

isn't capable of capturing that, but TimesTen is," claimed Shetler. "We increased the volume of updates by 400 percent," he claimed. Such a capability, he added, makes the solution more suitable for business activity monitoring and intelligence applications that "look at events and figure out what's important."

While pricing remains at US\$12,000 per server processor, replication and caching modules are now optional, each costing \$6,000 per server processor. TimesTen runs on Linux, Unix and Windows servers. JMS support has been certified on Oracle's J2EE server, as well as those from BEA, IBM, JBoss and Sun, Shetler said.

Shetler claimed that caching also has been made more



**TimesTen's improved capability makes it more suitable for business activity monitoring, according to Oracle's Shetler.**

resilient. "Prior to version 6, caching had to stop if the connection between the TimesTen and Oracle databases went down. Now both sides can operate normally during a network crash and updates will take place when the connection is restored." The replication module also now replicates the cache as well as stored data, improving failover protection, he said. ■





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# IBM Proposes Eclipse Project for Process Guidance

Initial donation to be based on Unified Process, but not tied to Rational tools

BY JENNIFER DEJONG

IBM has proposed an Eclipse project to deliver guidance on managing software projects more effectively.

If the Eclipse Process Framework project, code-named Beacon, is accepted, IBM's initial donation is expected to include best practices advice and code based on the Rational Unified Process, said Per Kroll, IBM's

manager of methods.

RUP is essentially IBM Rational's collection of methods and best practices for developing software using iterative techniques, where teams write software in short stints, re-evaluating priorities as they go. RUP-based guidance is tightly tied to IBM Rational developer tools. But the expected Eclipse donation is designed for use by

any developer, said Kroll. "We have removed the technology- and tool-specific guidelines."

The larger goal of the effort is to reduce delays, cost overruns and failure rates that plague many software projects. According to research firm Gartner, nearly half of internally developed software projects run over budget. Ninety percent of software projects are completed

late; 30 percent are canceled.

Failure rates remain high not for a lack of knowledge on the best ways to develop software, said Kroll, but because practical advice, often published in books, has been notoriously difficult to get at. "There's tons of knowledge out there," he said. "Beacon represents an opportunity for the industry to work together to leverage knowledge we already have."

Consulting firms Capgemini and BearingPoint, among other companies, plan to support the project, as does Object Management Group, a nonprofit consortium that maintains industry specifications for interoperable software, according to Kroll.

"The breadth of industry interest and participation shows that this project has the potential to rapidly grow a community around it," said Eclipse executive director Mike Milinkovich.

The IBM donation is likely to include role-specific best prac-



There's a lot of knowledge out there, but practical advice has been hard to get at, says Kroll.

tices advice for analysts, architects, developers, project managers and testers, said Kroll, as well as 300,000 lines of code based on tooling built for RUP. The code captures best practices, configuring and publishing processes to communicate them to a development team, he said. The Eclipse board is expected to vote on the project by December. "We're excited about the potential this proposal represents," said Milinkovich. ■

## WITH METHOD COMPOSER, HELP GOES HIGHER UP

As IBM announced plans to donate RUP guidance to Eclipse, it also readied a new version of its commercial Rational Unified Process offering.

The company last month announced IBM Rational Method Composer, which delivers process guidance not just for the coding phase of the development life cycle, but also for requirements planning and project management phases. "Traditionally, RUP has been focused on writing software," said Per Kroll, IBM's manager of methods. But Method Composer, expected by year's end, also provides project plan templates and new best practices to help business analysts and project managers identify project goals, build a business case for a project, and determine and allocate resources needed to complete it, said Kroll.

A replacement to the earlier Process Workbench, Method Composer can be used with any tool, not just those included in the IBM Rational Development Platform, said Kroll. It's available free of charge to RUP customers, and starts at US\$395 per user for others. Also new is advice geared to project types, such as custom application development and legacy evolution, and integration with Portfolio Manager, an IBM tool that manages project resources, he said.

—Jennifer deJong



# Embarking on a New Path for Strategic Data

BY DAVID RUBINSTEIN  
AND EDWARD J. CORREIA

To make data management a strategic part of business planning, companies must excel at three disciplines: availability, architecture and security. This is according to data management tools company Embarcadero Technologies, which late last month signed a definitive agreement to acquire a small data auditing company and released an update to its ER/Studio 7 data integration software.

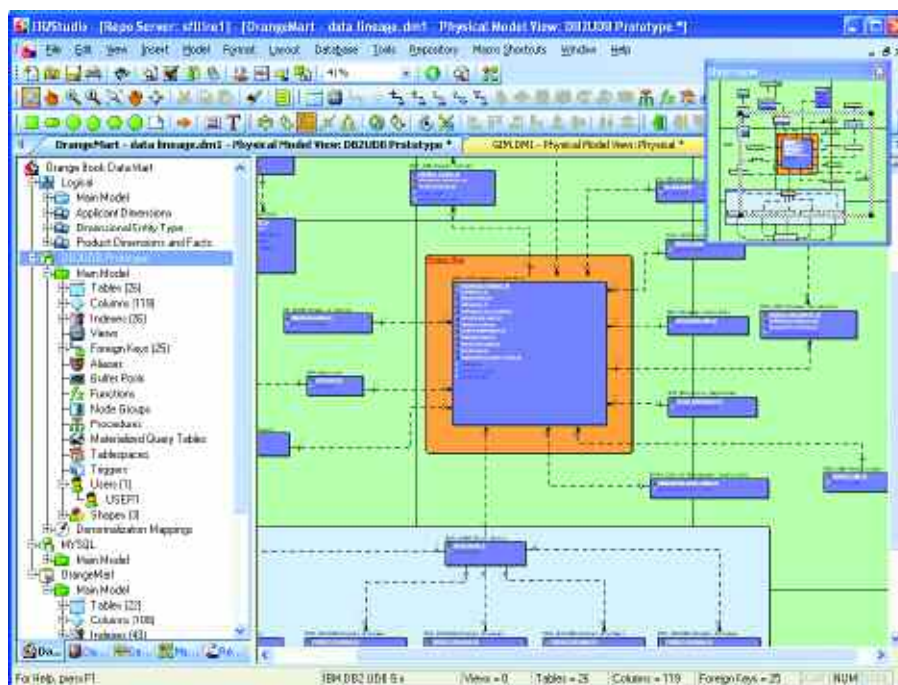
Data auditing is the first step in the security piece for Embarcadero, according to president and CEO Stephen Wong. "Beyond that, we'll be addressing user and password management, vulnerability assessment, and change and configuration management in the context of a database," he said, explaining that intricate dependencies exist in a database, and a change to one object can ripple through schema and affect many things.

By acquiring privately held, Colorado Springs, Colo.-based Ambeo, Embarcadero's vision of strategic data management gets

a jump-start. Ambeo's software works with IBM, Informix, Microsoft, Oracle and Postgres databases. Also, its solution sits on a network and grabs packets at high speeds without touching the production servers, so performance does not drag. Wong noted, who said that security management utilities already had been built into Embarcadero's administration tools, but they never did auditing.

"Auditing is an increasing part of compliance, but logging doesn't have to be. The prospect of turning logging on in large organizations is a nonstarter," Wong added.

For the architecture part of the strategy, ER/Studio 7 is the cornerstone, he said, as users can map a vision for data standards or create a corporate data dictionary to gain greater visi-



Modeling data flow in ER/Studio 7 eases maintenance of data-centric apps, the company says.

bility and access to data.

The new version, released Oct. 24, gives developers the ability to trace the lineage of data through all phases of integration, permitting them to troubleshoot data-flow problems and solve other types of

integration and data warehousing issues. It also will include the ability to replicate and migrate security models of disparate database systems. Pricing for the Windows-hosted environment remains at US\$3,495 per seat.

According to Greg Keller,

the data lineage features are useful for easing maintenance and diagnosis of business intelligence and data warehousing applications. "Lineage features allow architects to trace where disparate information is coming from, where it loads and [to see] the business rules that modify data, a database or warehouse."

Wong said Embarcadero's tools cover application and system design and data integration, and "when you allow an integration and a workflow, then you're walking toward an enterprise architecture approach," which he acknowledged Embarcadero is heading toward. "Clearly it's a vision of ours to a huge extent," Wong said. "For now, though, we've done the work on the toughest problem to solve—getting the data side of the house in order." ■

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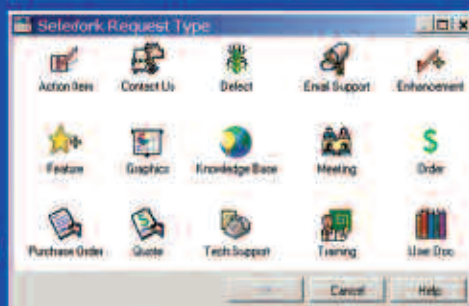
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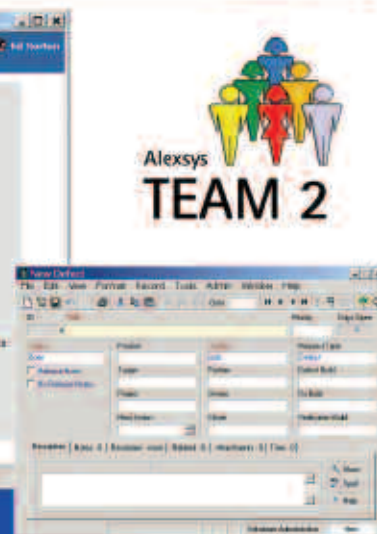
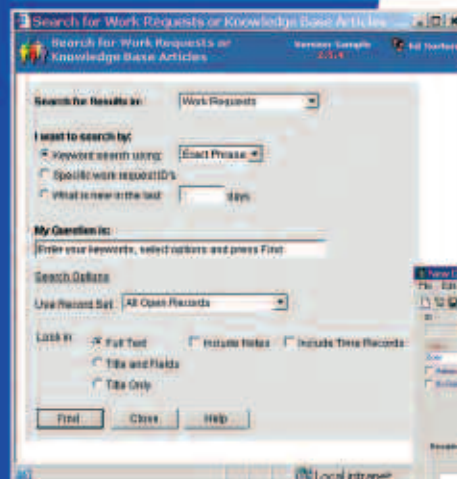
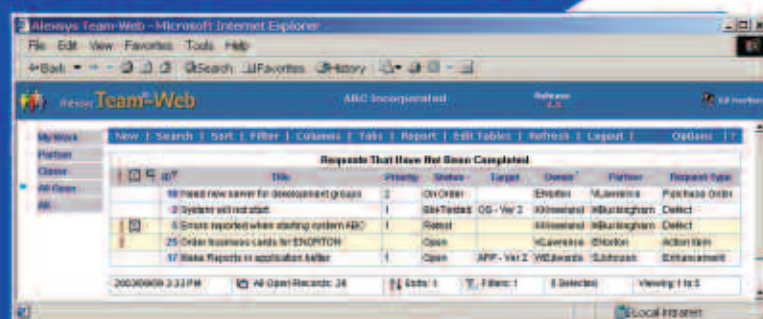
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Team 2 works with its own standard database, while Team-SQL works with Microsoft SQL, MySQL, and Oracle Servers. All versions of Team 2 work on Windows 95/98/Me and Windows NT/2000/XP/2003, Netscape and Microsoft Internet browsers.



# 'Zend' Us Your Developers, Eclipse

Company pledges PHP tool in exchange for help furthering it

BY EDWARD J. CORREIA

Zend Technologies in mid-October unveiled the PHP Framework, a Struts-like set of

components that it says will simplify the job of PHP developers when building interoperable applications and Web ser-

vices based on the PHP language.

The company, now an Eclipse Foundation strategic

developer, also has pledged to commit its Zend Studio PHP development environment to the platform for its inaugural

project, but is unsure whether Eclipse is the appropriate venue for development of its new framework. "Eclipse is still associated as a Java framework for development tools," said Zend CEO Doron Gerstel. The Web site that would be home to the framework project was not yet public at press time.

## STRUTS AND SPRINGS

According to Andi Gutmans, Zend's co-founder and vice president of technology, the PHP Framework, while analogous to Java's Struts and Springs, takes a different approach. "We're creating a framework that supports a new trend in Web services development: rich Internet applications and data manipulation, such as search," which he said has not been implemented very well previously.

Gerstel said he believes that Eclipse is a good way to involve ISVs and other third parties to further develop its tools and "bring PHP to the next level."

To do this, he said, requires a collaborative playing field. "You have to choose a de facto standard to allow this. Eclipse is that standard, and will integrate other ISV solutions and provide a better environment."

Better, he said, than Zend Studio 5, the company's forthcoming PHP development environment, now in beta 2. Set for a mid-November release, the tool will add the ability to generate WSDL from PHP source code, fold classes, functions and other PHP and non-PHP code, and integrate with third-party subversion systems. According to Gerstel, the release following that will be Eclipse-based, sometime in mid-2006.

Gutmans admitted that the main reason for his company's interest in Eclipse had nothing to do with technology. "It's that it allows us to add more value through other vendors," he said. "We've always wanted to open ourselves up, and Eclipse lets us do that and get a lot of additional value for free."

The company announced the projects, which Gerstel said already include involvement of Actuate, FileMaker and IBM, at its first-ever PHP Conference and Expo in San Francisco last month. ■

# "We deeply regret this incident"

Kevin Kessinger, EVP, Citigroup June 2005



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# At Alexsys, There Is an I in Team

Task management software designed with individual user in mind

BY DAVID RUBINSTEIN

With new features such as group access, policy enforcement and optimized SQL database access in its Team 2 release last month, Alexsys is hoping to bring its task and project management software into larger organizations. But Alexsys isn't forgetting the little guy.

"Team task management is the foundation of project management," said Alexsys founder and president Rich Bianchi. "You must help the individual contributor get the job done."

Bianchi emphasized that Team 2 is not a traditional project management tool, which he said deals basically with planning and does not handle workflow or task management. "The more

complex the plan, the harder it is for the individual user to understand his role," he said.

Among the additions to the software are customizable forms

and fields with custom views that filter and sort tasks; the ability to select more than one field in a task, which is useful when policies say projects can't

be closed until all tests are done; and enhanced form processing, so that if a user selects a department for a work request, he also can select a

person from within that department to handle the task.

Alexsys Team 2 SQL, for larger workgroups requiring WAN support and compatibility with existing databases and tools, sells for US\$295 per user; a standard edition with a file-based relational database sells for \$155 per user. ■

## System Architect Enhances Analytics, Decision Support

BY DAVID RUBINSTEIN

The goal of enterprise architecture is to help organizations locate their assets and gain access to them. Now, with the Nov. 23 release of Telelogic System Architect 10.3, organizations can make more informed business decisions based on that data.

The release, the first since Telelogic acquired Popkin Software in April, boasts analytics enhancements that improve decision support, according to Jan Popkin, chief strategist at Telelogic. "Enterprise architecture is accepted as a way to do things for visualizing, capturing and communicating [assets], but the market is maturing, and now you need to make decisions by purposing the data."

The new release includes metrics templates for cost and resource calculation, and visualizations for gauges, traffic lights and other displays.

Also new to this version is support for Oracle 10g as a repository; previously, System Architect relied solely on Microsoft SQL Server as its repository.

Tighter integration with Telelogic's DOORS requirements and TAU modeling and design products, and enhanced reporting that allows such tools as Crystal Reports to be plugged into System Architect, are also new. ■

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# IBM Research: Six Decades of Breakthroughs

BY ALEX HANDY

Stuart Feldman, a 10-year veteran of IBM, had reason to party on Oct. 11: It was the 60th anniversary of IBM Research, where Feldman is vice president of computer science research, and it was celebrated in typical engineering fashion.

"We had a really nice party a few days ago," said Feldman after the celebration, "with, as only researchers would do, a full day of talks. They brought back a

bunch of the earlier directors of research and people who could remember the good old days."

The eight-lab research arm of IBM has been in existence since the end of World War II, and is responsible for developing some of the most influential pieces of technology used in the computer industry.

The original facility, the Watson Scientific Computing Laboratory, was founded at Columbia University in New York in 1945. A year later, IBM released the 603 Electronic Multiplier, the first computer ever to enter a full-scale production run.

Over the years, IBM would develop such things as magnetic storage, magnetic core memory, Fortran, dynamic random access memory and a host of other technologies that helped shape the industry as we know it today.

Feldman is happy to be a part of the proud computing traditions at IBM. "The labs really are continuing to grow and continuing to have massive investments in software [and] major work in hardware and architecture, while we try to figure out what to do with services," said Feldman. "And today we're leaders in things like SOA. The good news is we have a very continuous history of massive innovation."



An IBM researcher modifies a plugboard program for an IBM Electronic Calculating Punch in the early years of IBM's Watson Lab.

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## SOLUTIONS FOR A SMALL PLANET



**1945** Watson Scientific Computing Laboratory founded at Columbia University in New York.

**1946** IBM releases the 603 Electronic Multiplier, the first computer ever to enter a full-scale production run.



**1952** IBM expands its research facilities by opening its first lab in San Jose. The San Jose labs would come to be the focal point for IBM's magnetic storage medium research.

**1955** IBM researchers develop magnetic core memory, the doughnut-shaped modules that would form the basis of RAM for computers up until the 1970s.



**1956** IBM opens its Zurich, Switzerland, research facility. That same year, the researchers there developed the first magnetic hard disk.

**1957** IBM researchers create Fortran, a programming language still used today, though not widely.



**1966** IBM researcher Robert H. Dennard creates dynamic random-access memory, the forefather of the RAM used today in every computer around the world.

**1970** Another IBM researcher, E. F. Codd, writes specifications for the first relational database, and in doing so, touches off a new world of information storage. This research would eventually lead to IBM's DB2.



**1971** IBM researchers create the first speech recognition program. For the rest of the decade, IBM would spend much of its research time shrinking circuits and increasing the capacity of magnetic storage media.

**1980** The company develops the reduced instruction set computer, or RISC, technology that would eventually be used by MIPS and Apple.

**1984** IBM finds itself in possession of a new bit of research that won't become useful for another 25 years: Its researchers create the world's first peer-to-peer networking protocol.

**1992** IBM Research contributed greatly to the offering of IBM's first laptop, the ThinkPad. This machine, combined with Apple's Powerbook 100, would revolutionize portable computing and result in the current world of portable techno-lust and PDA-envy.



**1993** IBM holds more patents in the U.S. than any other company.



**1997** The researchers at IBM build Deep Blue, a chess-playing computer that successfully defeated world chess champion Gary Kasparov. It was the end of an era. It was the day the machines won.

—Alex Handy



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# PDF Support: Better Late Than Never

## Microsoft says Office 12 will handle both PDF and Metro

BY EDWARD J. CORREIA

The mountain of requests for PDF support in its products finally became too much for

Microsoft, which after years of resistance, has relented. The company announced last month that its forthcoming Office 12

software will support Adobe's Portable Document Format.

The company also will move ahead with plans to develop the

XML Paper Specification (XPS), formerly known as project Metro, an initiative widely viewed as competitive to PDF.

Microsoft had previously encouraged users looking for cross-platform document formats to use Word's .DOC format and others from Microsoft.

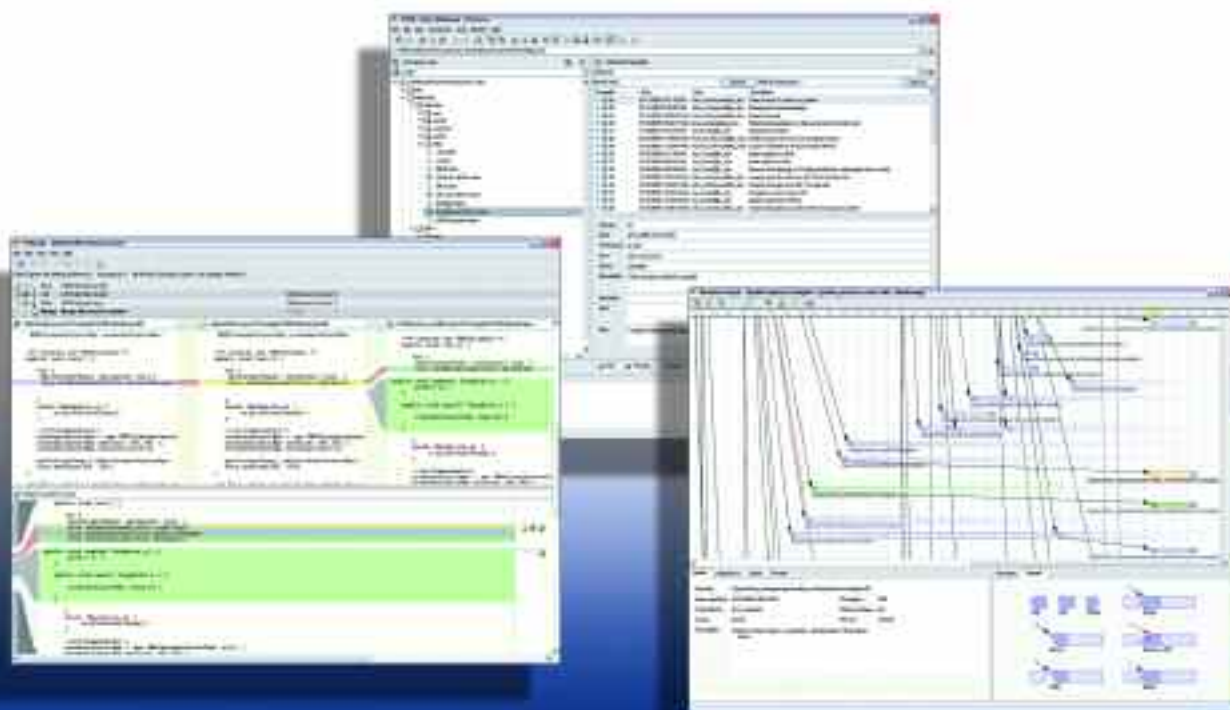
Erik Ryan, product manager on Microsoft's information worker product management group, said the move to support PDF was prompted by numerous and sustained requests for fixed-format output capability. "We receive over 120,000 requests each month about PDF for Office," he said, adding that the feature will remain in Office 12 after XPS is implemented with Windows Vista next year. "We plan to support both formats as they serve different needs for our customers."

Ryan said that the XPS fixed-format document specification is not the same as PDF. "An XML-based description will enable a new and different set of capabilities...based on a file format that is fully described in XML," which he said include archive, search and document management capabilities.

Office 12 documents output as PDF can be displayed with a PDF viewer that supports PDF version 1.4—a long-obsolete version of the specification. Ryan did not respond when asked whether Microsoft would support newer versions of Adobe's PDF spec. He denied, however, that PDF support was added as a stopgap measure to comply with a recent mandate by the state of Massachusetts for open document formats. ■

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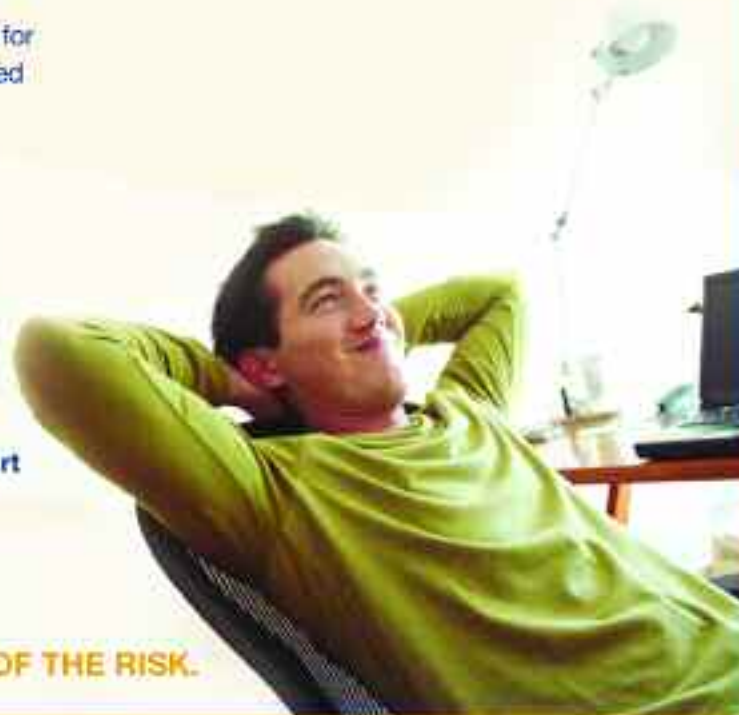
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# RSS: Lack of Unity, No Single Vision

◀ continued from page 1

University's Berkman Center for the Internet & Society.

A third group of programmers started a new syndication specification in June 2003, called Atom, to address the shortcomings of

1.0 and 2.0. Their work was later adopted by the Internet Engineering Task Force (IETF). If that weren't enough, programmers created RSS 1.1 and 3.0 as protests, but neither saw distribution or use. In total, there are

nine different versions of RSS, and, as one programmer put it in his blog, "RSS 2.0 isn't even compatible with itself," after Reuters ran into problems with an early attempt at an RSS feed.

What this means is a widely

used protocol is in the hands of a few programmers, not even groups with pull such as the World Wide Web Consortium. But it's not just the protocols that are at odds with each other—so are the people behind them.

The backbiting and lack of central coordination has been there since the beginning. But RSS has been successful despite that because it's so simple and relatively straightforward to support all three protocols—RSS 1.0, RSS 2.0 and Atom—at the same time, said Gartner research director Ray Valdes, who has followed RSS' unlikely success.

## 'THE STANDARDS CARD'

"It would be nice to have a more open, transparent process and more open participation rather than having decisions be made in smoke-filled back rooms," Valdes said. "I think it will eventually happen and be driven by the large vendors. Microsoft and IBM are very much aware of going with the flow. They know how to play the standards game to their strategic advantage, so at some point they will play the standards card."

Microsoft says there will be no embrace-and-extend, which it's done more than once with RSS. "The value add we think we can bring is to essentially make that complexity invisible to the software developer and end user," said Gary Share, director of Internet platforms at Microsoft. "That's first and foremost our goal in how we approach RSS in Internet Explorer 7 and Windows Vista."

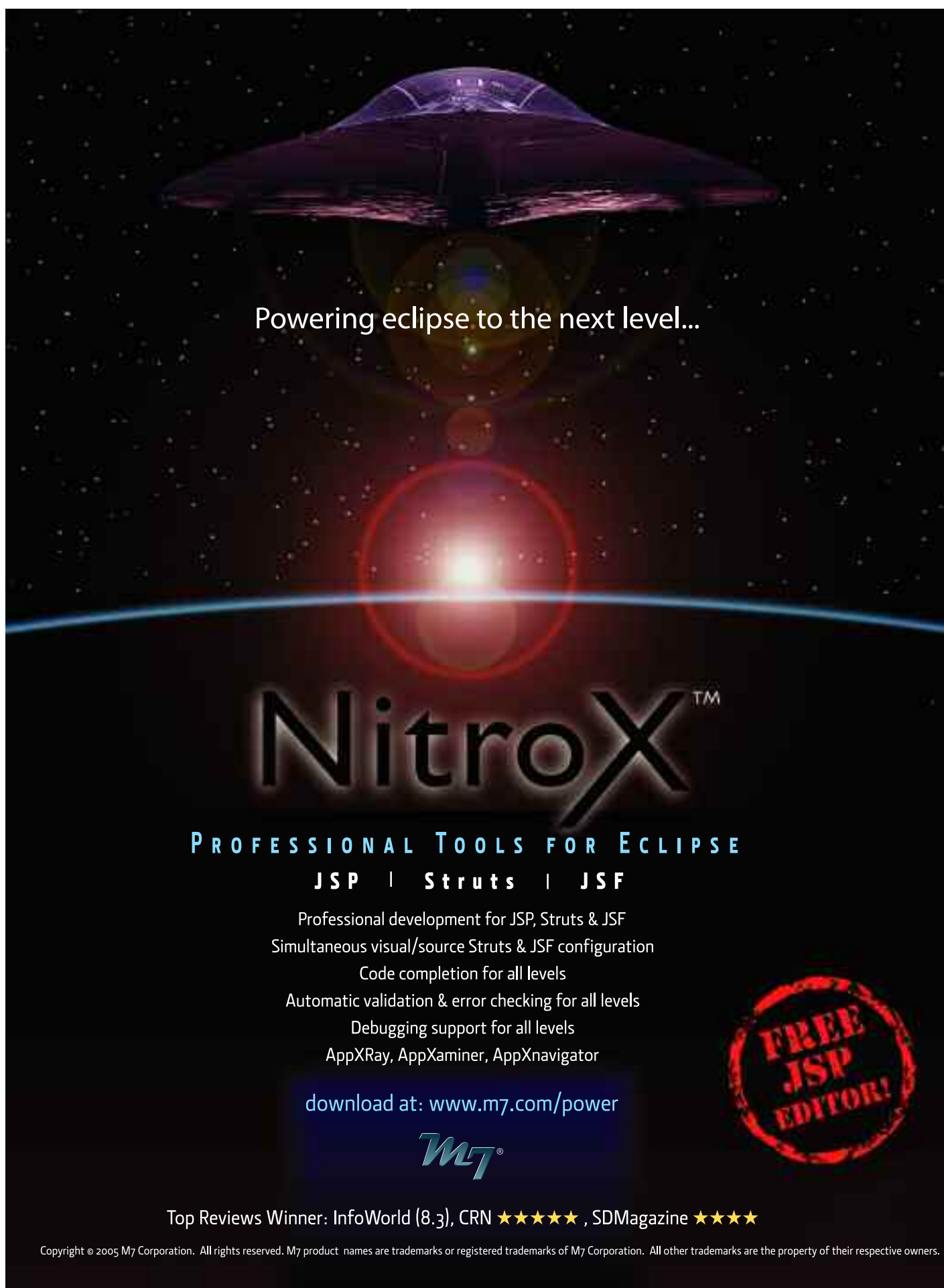
Share said one of the reasons RSS hasn't settled down yet is no one version of the protocol has reached critical mass. Microsoft's solution to that is to make RSS a core part of Windows Vista and Internet Explorer 7, thus putting RSS in the hands of millions of users.

"It's not our goal to determine what is the standard or own the protocol. We have no plans to do that," said Share. "We don't want to go chasing 20 evolving formats, but we want to start by embracing what's out there today and see if it can coalesce around the developer and user."

Microsoft is, however, bringing its own ideas to the protocol with the introduction of Simple List Extensions in Windows Vista. SLEs are designed as extensions to existing feed formats to make exposing ordered lists of similar items easier and more accessible to users. A list might be photos or music or video files.

SLE will be published under the Creative Commons Attribution-Share Alike License, the same license that RSS 2.0 uses.

► continued on page 25



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# Upcoming Release of GPL 3.0 a Mystery

◀ continued from page 1

of attention. They're sort of portraying it as 'It's not going to be a big deal, though.' For me, I'm not sure those things make sense. It's so small, and yet we're going to get 150,000 comments?"

Golden also stated that he saw the potential for a number of changes within the GPL, though he was uncertain as to which would be implemented.

"There's a rumor that they're going to address so-called SOA architectures through it. I've seen [ideas] all over the map about what that means," said Golden. "They might go as far as saying if you deliver software as a service, that counts as distribution. I've also heard kind of the opposite. Right now, the people who really worry about these redistribution things tend to be vendors. As long as it's behind your firewall, you don't have to worry about it. With the overall move to SOA, if moving a service outside the firewall ends up being distribution, a class of users who today aren't concerned about distrib-

ution will now have to be."

Golden went on to say that the new revision of the GPL also could address issues related to international law. He also believes the issue of software

patents could be addressed within the GPL 3.0 as well.

"I think that they're going to try and come up with some way to say, 'If you assert patents, you forfeit your rights to use the

product,'" said Golden. "To a certain extent, I'm not sure it's going to have much force. The sort of people who enforce patents or would use patents aren't the ones that would be

using open-source products. They're very concerned about patents, quite rightly. I don't know what they can do in the license that would have a real impact. IBM has a lot of patents, [but] they're unlikely to assert their patent rights because they're going down the open-source road." ■



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## RSS MESS

◀ continued from page 24

Valdes thinks SLE is a good addition to the protocol. "Microsoft is not introducing gratuitous changes," he said. "We saw more of this in the HTML wars, where one could argue what they introduced was gratuitous."

Share hopes things will settle down as the protocol reaches critical mass. "Everyone is still congealing around a common set of formats. At this point, we've all agreed to support what's out there today. Some are making big bets on Atom, others on RSS. We're making our bets across the board on what's out there today so we can get to critical mass usage of this," he said.

Valdes said he's not worried yet. "There's a risk for real fragmentation, but it's not based on someone [who] didn't like someone else and is not on speaking terms. It's based on a product strategy trying to lead people to one platform. There may be a problem down the road as people add significant extensions. Hopefully there will be a standards effort." ■



## News Briefs

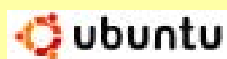
## MORE UPGRADES

&lt; continued from page 14

data integration functionality; and Business Optimization includes portal, business activity monitoring and complex event processing products . . . Green Hills Software's **MULTI** development environment now supports Wind River Systems' VxWorks RTOS version 6, making MULTI the first development environment—including Wind River's own—to support both VxWorks version 5 and version 6, the company claims . . . XML database company IXIASOFT has released **TEXTML Server 3.6** with syndicated search for managing large volumes of content, enabling queries of multiple document



bases to seem as if they were querying one base; and the ability to access fragments of a document via search . . . Composite Software has released **Composite Information Server 3.6**, which introduces a new modeling wizard for constructing XML content from different hierarchical and relational data sources. The company says that CIS 3.6 also has faster query response times and new event-handling capabilities, and that the Intelligent Query optimizer has been enhanced for interpreting incoming queries and determining the best course of action for each of them. CIS 3.6 is available now, and is free to existing Composite-supported customers . . . Imaging component software maker Atalasoft has released **DotImage 3.0**, its photographic and document imaging tool for Microsoft .NET, with a module for developing optical character recognition document imaging workflows, and several performance enhancements. Also new in the release is the ability to handle time stamp, GPS and manufacturer-specific data. The company also updated **DotTwain**, its tool for capturing images from scanners, cameras and other TWAIN-compatible devices . . . DevComponents has released **DotNetBar Suite 5.2**, a set of 12 components for creating user interfaces in Visual Studio.NET. The release adds a split-view document docking feature for working on more than one document at a time . . . **Ubuntu Linux** has reached version 5.10, code-named "Breezy Badger." The new release



includes OpenOffice 2.0, Gnome 2.12 and all updates for its core software released in the past six months. Ubuntu is a "free as in speech" operating system based on Debian Linux, funded by South African space tourist Mark Shuttleworth, and features support for numerous languages . . . **InstallAware 2005 Second Edition**, an updated Windows installer from InstallAware Software, introduces support for 256-bit AES encryption and allows partial Web deployments, where the installation file is broken into a setup.exe for the main application, and a separate downloadable block for optional features and runtimes. There also are enhancements to the script editor and file compression engine. Pricing starts at US\$99 . . . The open-source text editor **Vim 6.4**, with numerous bug fixes, has been released.

## PEOPLE



**Tim Cook** has been promoted to chief operating officer at Apple. He had been executive vice president of worldwide sales. **Jon Rubinstein**, Apple's senior vice president of the iPod division, will retire and be succeeded by **Tony Fadell** . . . Red Hat has named Brian Stevens as chief

technology officer and vice president of engineering. Stevens had been vice president of operating system, storage and clustering development, and spent the past four years leading the company's enterprise strategy. He will lead the company's emerging technologies group and focus on technology strategy. Stevens holds a master's degree in computer systems from Rensselaer Polytechnic Institute . . . MySQL AB has promoted **Kaj Arnö** to vice president in charge of the company's open-source community relations group. He is responsible for representing MySQL within the software development community, as well as representing the community's interests back to MySQL management. Arnö has been with MySQL since 2001 . . . **Natalie Itin** has joined the staff of SD Times as an editorial assistant. She is a 2004 graduate of the University of Connecticut with bachelor of arts degrees in English and journalism. ■



ITIN

# Microsoft Offers a Look Beyond Launches to Trends

&lt; continued from page 1

**life-cycle edition of Visual Studio 2005]? Do you see shops using all three role-specific offerings together—or adopting, say, Team Developer and Team Tester but not Team Architect?**

Both will happen. But most people will want to go with the whole suite. When you look at software development, there's a debate whether it's a science or an art. But for the most part, it's a largely unmanaged process on any platform. The failure rate of software projects is high—and there is a lot to be done to make the software development process more predictable, reliable, successful—and on time. Team System is a set of tools to accomplish that—it has three "uber" goals: reduce complexity, increase productivity and improve predictability. [As to] our own track record of shipping products in a predictable way—we have a ways to go on that.

**A Sept. 23 Wall Street Journal article said that the sheer size of the Longhorn [Windows Vista] project has stretched Microsoft's approach to developing software to the limit. According to the report, Jim Allchin, co-president of the platforms, products and services division, said he told Microsoft chairman Bill Gates, "It's not going to work," referring to the earlier plan where thousands of programmers write their own pieces of code, which are then stitched together. The cornerstone of the new plan, according to the article, is to design the forthcoming version of Windows so "Microsoft could easily plug in or pull out new features without disrupting the whole system." To what extent has that changed the Longhorn work going on now, and how will it impact future development efforts?**

The key point to keep in mind with Windows Vista is that if the system is componentized enough, if it is layered enough, if we truly understand the dependencies and the boundaries—that will be a great step forward. In the last year and a half [that has happened]. We have a better understanding of those things.

**Is Microsoft using Team System to develop Windows Vista?**

No. Windows Vista has [thousands] of developers working on it—more than any [development project] out there. Before we host Windows Vista on Team Foundation Server [the collaboration server on which Team System is built], we make sure Foundation Server is right. [Foundation Server has been delayed until the first quarter of next year.] The Team System team, which has 300 developers, has been hosting on Team Foundation Server for six months. And several other products [under development] inside Microsoft are also on Team System.

**Will Team System eventually support Windows-sized development efforts?**

Yes, absolutely. But not in version 1. If you look historically at how we were doing things, we used one set of tools to develop [commercial offerings] and then shipped a different set of tools to developers. But that changed three or four years ago. We are selling what we use and using what we sell. Team System will [eventually be used to manage] all Microsoft projects.

**Does Team System line up head-to-head with the IBM Rational Software Development Platform? Do you see them as comparable offerings?**

The biggest thing we are doing is integration. Rational will deliver on integration in the next release. Team System has a lot of [integration] value today, in version 1.

**For example?**

Let's assume that I am an IT guy. One of the things we have today is a Chinese wall between IT and developers. Developers develop apps and throw them over the wall to be deployed. But if you have an issue-tracking system, for example, the IT person can file a bug in issue tracking. Developers can look at it, fix it, then test it.

**Are you saying Team System provides those capabilities and the Rational platform does not?**

I wouldn't say it can't be done in [Rational]. But we do it

more easily. We decided [with Team System] that our biggest focus is integration. It is super important to us, integration first, not just the tools.

**Microsoft has said in the past that Team System can also be adopted by shops that aren't all-Microsoft. Can you give me some scenarios of where that makes sense? Will Microsoft rely primarily on third-party partners to make that happen?**

We have always said that we think of Team System as a tools platform that third parties can plug tools into. If you are a Java developer, you can use our Team Foundation Server for change management and issue tracking, for example. You may not get the full integration if you are not a Microsoft shop.

**What's next, in terms of future developer technologies from Microsoft? What problems are you trying to solve for developers going forward?**

There are three trends. The IT organization and the developer organization are still two different islands. Bridging the barrier is an important problem for us to help people solve. Second, if you look at data and programming, they are two different worlds. We took a good step in SQL Server 2005, bringing all the benefits of managed code to database developers. And we will continue to bridge semantic differences between the data world and the languages world. Third, every business is trying to enable a richer user experience. The developer and designer worlds will work together more closely.

**How will the recent Microsoft reorganization, with Eric Rudder, Microsoft's senior vice president of servers and tools, reporting directly to Bill Gates, impact what comes out of the developer division?**

I don't think it has any impact, but it gives us more visibility. Rudder is working on strategy for Bill. It is good to have a key strategic guy in the company. If you look at the developer division below me—with 1,700 to 1,800 Visual Studio and .NET developers—there are no changes. ■



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# Small Steps Toward Big Market: Linux Phones

## LSB will be key as OSDL concludes first mobile Linux meeting

BY EDWARD J. CORREIA

The Embedded Linux Consortium tried and failed. Now it's OSDL's turn. The Open Source Development Labs in October wrapped up the first meeting of the Mobile Linux Initiative, a newly formed working group that it says is intended to "maximize the market opportunity for Linux-based devices" in the mobile market.

According to Bill Weinberg, open-source architecture specialist at OSDL, the MLI will take a different approach than

its predecessors to the problems of Linux for mobile: by addressing them in small pieces.

"Most attempts of defining [and] redefining Linux to date have not succeeded because they were very ambitious, encompassing and broad," said Weinberg. "It is not in the nature of open source to admit large and discontinuous changes; rather the favored approach is incremental."

At its first meeting, which took place in Beijing in late October, Weinberg said the MLI

was to identify the critical gaps—such as boot speed, memory footprint and security—and decide how to bridge them. "Preferably in the manageable, incremental fashion preferred by the community," he said. Economic gaps such as integration, royalties and time-to-market also will be addressed, he said.

However, Weinberg said the efforts of the ELC were not a total waste. Its Platform Specification 1.0, which is now under OSDL's care, defines three embedded Linux profiles using

POSIX subsets and the Linux Standard Base (LSB). "As such, ELCPS is mostly a very low-level Linux API standard with no particular leaning toward mobile or other specific devices or applications," said Weinberg.

In other words, the ELCPS was too general. The MLI will target only mid- and high-end Linux-based mobile phones. "MLI will surely describe Linux-based phone platforms that are LSB-compliant, and first and foremost will respond to real-world mobile telephony

needs, today unmet by other efforts," he said. The group will begin by gathering requirements from silicon suppliers, handset manufacturers, ISVs and other mobile phone ecosystem participants. Initial MLI members include MontaVista, Motorola, PalmSource, Trolltech and Wind River; all but PalmSource were ELC members.

The group also will define use cases and promote application development through open-source projects and support. ■

# Device Simulation Benefits From Hindsight

## Modeling language in Simics 3.0 is proprietary, but still produces C-language code

BY EDWARD J. CORREIA

Companies such as Green Hills Software that claim to offer reverse debugging really don't. That's according to Virtutech, which in October released Hindsight, a reverse-execution system that it claims truly offers the ability to step backward through an execution and make changes along the way.

Hindsight is offered as a US\$5,000 optional component of Simics 3.0, the latest version of the company's \$50,000 device simulation and debugging environment.

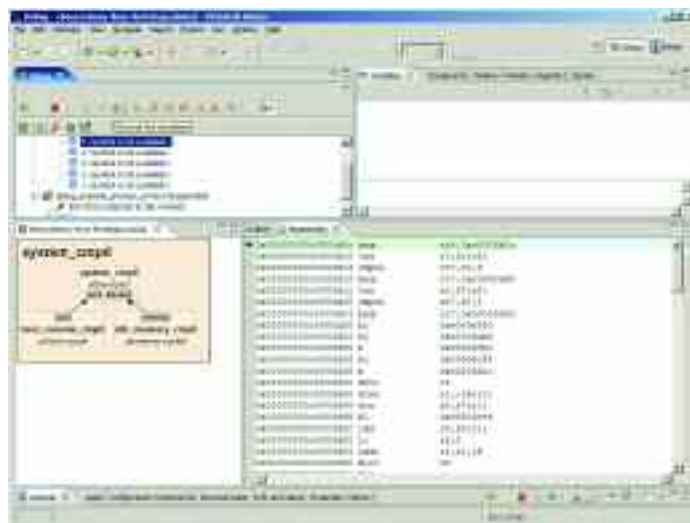
"Green Hills' [Time Machine] is not reversible at all," claimed Peter Magnussen, Virtutech's CTO and founder, "because you can't go back and make changes and then run forward again." The reason for this, he said, is that the device under test is not being controlled by the JTAG. "Time Machine is useful, but since it's trace-based hardware probing, you don't have control. With Hindsight, all the devices and drivers are reversible and able to be undone."

What's most important about Hindsight, according to Magnussen, is its general applicability. "We can build a reversible debugger for any product, across Linux, Solaris or any operating system. Nobody else can make that claim," he said.

Magnussen admitted, however, that Hindsight does not work with debuggers out of the box; there are caveats. "A debugger

still has to have commands that are specific to reversing," he explained. "Reverse execution will work, but will be more of a hassle. Because the debugger won't have command of reversing, you have to switch to the simulator to go in reverse and say, 'Reverse next, reverse next.'" Magnussen said the company is currently working on standards for reverse debugging with the gdb community and with several commercial debugger makers, but would not specify which.

Green Hills senior software editor Mike Lindahl provided some perspective on Virtutech's claims. "Since Hindsight only works with a simulator, there are a number of problems that cannot be reproduced and debugged using Hindsight." What's more, Hindsight cannot be used on actual hardware,



Eclipse now serves as the front end for the Simics debugging environment.

"which is where all the thorniest bugs appear," Lindahl said, adding that Time Machine does permit developers "to debug both forward and backward in time using production,

shipping hardware."

Simics includes beta code that will allow Hindsight to plug into Eclipse. "We're not an IDE company," said Magnussen, of the reason for integrating the

company's command-line tool with Eclipse. "This lets us provide a good IDE." The plug-in will work with Eclipse platform 3.1 and version 2.0 of the CDT, he said. No release date was set, but Magnussen hopes to make working code available this year. Beta code can be requested at [www.virtutech.com](http://www.virtutech.com) along with a Simics evaluation license.

Also new in Simics 3 is the Device Modeling Language (DML), which Magnussen described as a C-like proprietary language that is less complex than other hardware description languages and more generalized than UML. "Since it generates C and all the glue code on the back end, our customers didn't have a problem with it [being proprietary]," he said. Compiled code is linked to the Simics environment. ■

# EEMBC: Free Utility Gauges Java-Phone Speed

BY EDWARD J. CORREIA

Many developers build Java applications destined for cell phones, yet few of them know how well they'll run, or how poorly. So says the Embedded Microprocessor Benchmark Consortium, which recently began offering a free performance utility for testing J2ME cell phone implementations and comparing them with hundreds of others.

The not-for-profit organization, better known as EEMBC (pronounced as "embassy"), in Octo-

ber began offering its GrinderBench ([www.grinderbench.com](http://www.grinderbench.com)) mobile Java benchmarking application for free to all who register. Developed by ARM, Freescale, IBM, Intel, Motorola, Nokia, Sun and several other member companies, GrinderBench measures how well programs run computationally intensive apps, interact with the Internet, display images, encrypt messages and perform other JVM functions.

According to EEMBC president Marcus Levy, preliminary

benchmark data has been revealing. "Some phones have outstanding Java performance," and with others, "it's stretching the facts to claim that they can run Java-based programs."

Unlike most EEMBC benchmarks, which are generally intended to illustrate embedded-system processor performance, GrinderBench is designed to measure the performance of an entire J2ME implementation, including JVM, operating system, processors and display and memory sub-

systems. This enables developers to better understand the location of performance bottlenecks. The site also provides performance scores of a wide range of popular Java-enabled mobile phones published by EEMBC members.

Commercial licenses for GrinderBench also are available for US\$800 including source code. According to EEMBC, source code enables developers to identify specific problem areas in their J2ME implementation and to use the tool in devices such as set-top boxes and industrial control units. ■



# Roger's Rules For Web Services

If you're not using standards for design, definitions and transport, you've got something, but it's not a Web service

BY ROGER SIPPL

**T**ed Codd, the father of the relational model and the database products based upon it, published in 1985 a set of rules for what defined a relational database. Usually you will find 12 rules in this list, but Codd was a pretty strict guy, and there were actually 13. Rule 0 was that you had to use the database for everything you did with the data in it.

Rules like this can be a great help because sometimes people don't know what they "should" do when a new technology comes out. Back in Codd's day, it was relational DBMS, but today it is Web services and the concept of service-oriented architecture (SOA). We all need an old guy (me in this case) to give us some clues. The new notion of a "composite application" especially begs the immediate questions of "What is it?" and "What isn't one?" and also "How should we go about building a 'good' one?"

Of course, "goodness" has implicit within it the concept of "right" and "wrong," or at the very least "OK" and "better." So here I will list Roger's Rules for Web Services, where I explore the boundaries of "good" and "bad" with regard to this new modeling clay of information technology. I will

use, as the basis of value, the appropriateness of a design of a Web service with regard to its usability by others in the new age of SOA. The standard of value will be how easy or hard it is for another person to use this Web service in a new breed of tool to build a higher-level solution such as a composite Web service, an entire composite application or a workflow.

In short, how will this Web service will be handled by the new breed of application development tools, and even end-user information usage tools, which are arriving. This is quite analogous to the issues of database design and Codd's more primitive database structuring advice regarding "normal forms" (first normal form, second normal form and so on, that he defined for databases). By those guidelines, if you didn't structure your database well, then you would have trouble building solutions on top of it using fourth-generation languages (in the 1980s and 1990s) and object libraries and business intelligence tools (in the 1990s and in this decade).

Put yet another way, when the Macintosh came out, we had menus and windows, but there were lots of ways they could be used. Some would be intuitive to most users; some would not. We needed style guides. Web services and SOA are the same way. So, you can call them rules or a style guide or patterns or

just a semi-strict old guy's opinion, but whatever you call them, here they are.

**1 Use WSDL (including definitions for operations and the XML schema needed to define the data structures that are going to go into and out of those operations) to the best of your ability, injecting the highest amount of semantic knowledge that is known about what this piece of business logic is going to do.**

If WSDL is not used, or its UDDI entry equivalent, in my opinion it is not really a Web service. It is something else. Maybe it is XML over http or some other document exchange over the Internet mechanism, but a Web service has metadata that describes the operation signatures and the types of data that go in and out of those operation signatures. Tools that expect Web services to have this metadata explaining or self-describing them will not work well when it isn't there.

**2 Use SOAP for your communication. It can be over http, or https or even some other protocol if there is a reason to use a special carrier medium, but use SOAP.**

Non-SOAP XML payloads over simpler protocols aren't a dumb thing to do; they just aren't what tools expect. The new breed of tools that are coming to market want to send a SOAP mes-

sage, receive one, analyze one, reroute one and so forth. If you don't use that part of the standard, in my mind it isn't a Web service. You won't get the benefits of the standards work or the benefits of the tools that use those standards and expect them.

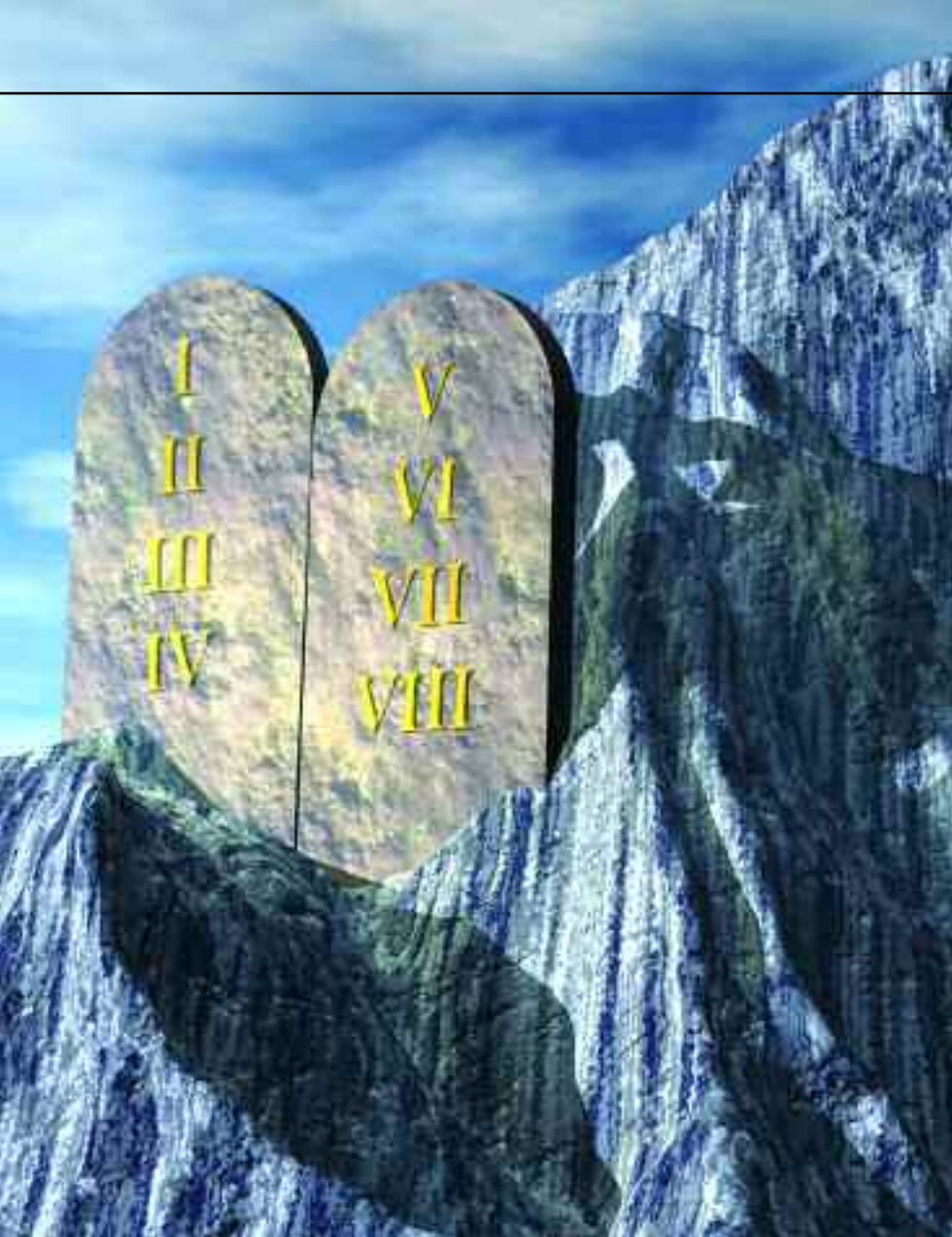
**3 Provide at least semi-obvious and "right-sized" semantics in the design of the business logic, whose inputs and outputs are described by the WSDL.**

People and tools will look at the structure of your business logic and the inputs and outputs, and they will try to assume a usage pattern for these services. Try to make it as obvious as possible, and try to make the operations the best modeling clay possible.

Also, consider giving the user or tool some hint, perhaps in the name of the Web services operation, whether this is a "query-purposed" operation, or has an "update," "insert" or "delete" intent in its heart or something that can't be described with such simplistic notions. But use good names for the schemas and operations. I am not sure "comments" are going to be read much in this metadata medium, but names are quite visible with these XML standards. Operations with names FindCustomer, DeleteOrder or PromoteToPlatinum-Status are much better than DoIt or PostIn.

*Roger Sippl, one of the founders of Informix Software, is today the founder and chairman of Above All Software.*





### WSDL extensions, and make them well known. Don't hide the semantics.

There is the ability to pass a fair amount of semantic metadata within a WSDL file to a tool or human user, but the WSDL and XML schema standards don't contain everything that a user would like to know about how to use a particular Web service. There are tools and repositories coming out that collect more semantic knowledge than the standard metadata documents currently hold. Sometimes this can be made available to those tools with calls that "describe" how to use the other calls—for example, the names of operations to call to get the always changing list of legal values for an element, or alternate "display names" or validation rules for an element. Perhaps even the desired font size and color or position on a layout page might be important in how to use a Web service's inputs and outputs. Whatever the additional metadata that could be offered, try to offer it using another Web service that lets the user discover information that has to be given to the consumer of the service. There is no place to pass those semantics in the standard XML metadata documents. Another way to pass such additional metadata would be to put it in the WSDL extension mechanism. However, putting it in a document that cannot be found or must be read by a human, or putting this information in an inaccessible database makes the services, again, hard to use.

whether these NULL values are allowed or not for a data element.

So, first of all, don't cross up your favorite tools by saying they aren't allowed, and then deliver them in a SOAP message. I suppose this goes without saying. Moreover, be aware that there are other ways, new ways, to deliver "nothing" in the SOAP message or a certain element. The code that is sending the SOAP payload can leave an element out, tags and all, or can put in the tags, but have nothing between them, for example. This is confusing for tools, to say the least, but a good design that is cognizant of this issue can help.

In my writing on this topic, I will use the term "unavailable" to describe the case where the element just didn't show up in the return values from a "query purposed" operation. The receiving end doesn't know whether it is a NULL or not; it just didn't show up. If you execute what appears to be a corresponding "update" purposed operation with that data, you can't send a NULL for that value when you didn't get anything for that element when it was retrieved, because you might overwrite some data inadvertently.

**8 Build applications using metadata-driven application development principles. (Use a repository for semantic knowledge that has an existence of its own apart from any particular application, and use metadata to define user interfaces as much as possible.)**

Use the standards, and tools that are built to take advantage of the standards, to create the "semantic Web" of your enterprise. Build composite applications to find the data, and transact with it, where it sits. Don't move data around and make uncontrolled duplicate copies just to get access to it. (Don't violate Codd's first normal form rule at the "enterprise silo" level.) Be an agile business that knows the 360-degree view of your customers, and every entity in your enterprise, because you have successfully implemented the above rules. ■

**7 Be cognizant of the notion of a NULL value. Make these semantics as clear in your WSDL as possible, and be as consistent as possible across your Web services.**

Codd did have a rule about NULLs in his database algebra. He required that they be dealt with. He required that there be a value that means "nothing is here," which was distinct from an empty string (for character data) and distinct from a zero (for numeric data). Web services have the notion of a nil value, which is the same, and a WSDL can say

Sometimes there are many services that always have to be used in combination when some obvious higher-level services could have been provided. Sometimes you can only retrieve a "customer with his orders and shipments of those orders and returns of parts of those shipments" but can't separately read the customer records or the order records. Give consideration to the "right-sizing" of the services built. When services must serve multiple masters, provide good modeling clay so that composition or refactoring tools that might be used to derive more specially purposed services from yours can be built.

**4 Judiciously, even rarely, use "more definition needed at runtime" data structuring mechanisms (such as the data type "any" or recursively nested data structures of arbitrary depth or "nested compositors"), and then only when you absolutely have to.**

There just isn't as much information about what to do with this business logic when this "runtime" discovery or "must know in advance" type of business logic is built. Again, sometimes multiple masters must be served, and this is the best modeling clay that can be built. But be aware that only the best "modeling up" or "refactoring" tools will be able to deal with such runtime ambiguities and provide more obvious Web services, on top of these more "raw" ser-

vices, which could be used by end-user tools or less-initiated developers.

**5 Make authentication as straightforward and obvious as possible.**

There is no "one standard" for Web services security in practice right now, but there are several "patterns" that are working out anyway. There are standards coming, but even when they get used, our history dooms us to diversity in this regard. But it works anyway, because tools have been built to make use of services by automatically authenticating, as long as a fairly obvious pattern for authentication is used. Some obvious patterns are the "session id style" where there is a "login" call that returns the session id that is used in all subsequent calls. This is good for stateful session families of services. There is also the "user name and password in every call" style, which is also obvious. Windows basic authentication or "error 404 http basic" authentication is also fairly straightforward. But don't get too creative and stuff names and passwords into cute spaces in headers and such. The more you get inventive here, the harder it is for others to use the services.

**6 Supply auxiliary metadata that provides additional semantics that aren't yet in the standards via additional Web services calls or via**

≈  
How easy or hard  
is it for another  
person to use this  
Web service  
in a new breed  
of tool?

≈  
—Roger Sippl





## EDITORIAL

## Worrying About the GPL

It would be hard to overstate the importance of the General Public License to the open-source community—and to basically every part of the software developer ecosystem, with the possible exception of pure Microsoft shops. The GPL lies at the heart of Linux. The GCC 4.0 compilers used by every operating system are governed by the GPL. Many other projects base their licenses upon the GPL.

Millions of commercial systems and untold thousands of companies use GPL-based licenses. Many commercial products are based on code that, to a greater or lesser extent, has some GPL-based components. Yet the entire GPL is controlled by the Free Software Foundation, whose founder, Richard Stallman, is vehemently opposed to any limitations on the free dissemination of software, and can't abide anything that would prevent people from copying or modifying software in any way whatsoever.

Stallman wrote the GPL, and under his guidance, the Free Software Foundation is preparing to rewrite it again. This is cause for worry.

For example, the GPL currently says that any code that contains GPL-licensed components falls under the GPL, and that any redistribution of that code must be free and without limitation.

However, that applies only to distribution of that code via source or binaries. Access to that code running on a hosted system—such as at an application service provider—is not defined as redistribution, and therefore doesn't have to be free and without limitation. This creates a business for ASPs to use Linux, for example, as a hosting platform.

Rumors are flying that the forthcoming GPL 3.0 will change the definition of redistribution. The change would classify as redistribution GPL-licensed code running in a hosted environment, either directly or using Web services, or as part of an SOA. It's possible that under GPL 3.0, a distributed system that uses GPL-based components tied together under an SOA would itself fall under the GPL. Such a license change would have a chilling effect on service providers.

Will the GPL change in that way?

It's impossible to know. The Free Software Foundation wouldn't inform SD Times about the changes that Stallman is considering to the license. While the FSF has created a development and publicity project around GPL 3.0, and is expecting comments from the community, it's unclear what he's thinking. Ultimately, Stallman continues to have full creative control over the GPL, and he can rewrite it any way he wants.

Fair enough.

Stallman created the FSF and the GPL, and his work on free software has led to amazing developments and advances in software development technology, and the evolution of key platforms like Linux and GCC. His track record is good.

Still, tremendous power lies in the hands of one individual. Stallman's license shapes our industry—including businesses and individuals who earn a living selling software and hosting commercial services.

We hope he continues to use his power wisely, and judiciously. ■

## Fears About Offshoring Exaggerated

A fever pitch about outsourcing came down after the 2004 elections. The panic surrounding the threat of outsourcing, particularly offshore IT outsourcing to India, reached a boiling point. It's now at a simmer, and we are returning to a state of calm. I had the opportunity to take a firsthand look at the situation in India last year.

India has a number of capable software development organizations that perform a variety of work at a reasonably low cost, but they are only able to handle a small proportion of the development that the United States needs to be done. As long as India begins investing in high-tech infrastructures for building software, I expect that they will provide a viable and cost-effective option for U.S. companies that want to outsource selected software development projects so they can better focus on their core competencies.

Outsourcing is giving developing countries, such as India, a chance to work with businesses in the United States, and from an economic standpoint, a reason to exist. In many situations, India can and should be perceived as a valuable partner, not as a competitor.

Outsourcing is not taking as many jobs as people think, and it's not as devastating as once thought. I work with many U.S. companies and find that the outsourcing projects that go to India and other locations, such as China, usually entail work that people in the U.S. are not willing or able to do anymore.

Here's an example. I am helping one company that is trying to control its Java code quality. As it turned out, this company was outsourcing projects that were written long ago in the old programming language COBOL. The language is so old that it's hard to find programmers in the U.S. who know it well enough to maintain and update it.

A different company needed my help to verify the quality of its C++ code. I found that its outsourced projects consisted of code that was written about 20 years ago—all by programmers who are now deceased. They needed somebody that could understand the code—it was written in some funny language—and make sure that it actually worked. The company

couldn't find anybody in the U.S. who wanted to do it. For that reason, the project got outsourced to India.

## SPREADING WORLD PEACE

There is no doubt that the current state of global affairs is facing tough times—fighting a war against terrorism. Exchanging currency for services with businesses in other countries is the best way to spread world peace. I believe nations, such as India, that take on outsourced projects, are performing useful tasks right now—covering our bases in the codes for which we either no longer have programmers, or are so old that nobody knows how to maintain or upgrade. Such collaboration is critical for our economy to grow.

Another point I'd like to make is that even as the amount of software development in India continues to increase, the amount of code that needs to be developed worldwide is also increasing. Over the past year, software development is once again becoming an attractive field. People are buying more and more products that are dependent on software to work. There's actually a boom in the software industry. People might not see it yet, but it's here.

These days, software is needed not only to run desktop computers, but also to enhance and integrate enterprise systems, control power and telecommunications systems, operate automobiles, run DVDs and VCRs, and so on and so forth. Technology is continually advancing, which creates an increased need for people to develop, test and support the software that drives these advances.

Some new jobs will be created in India, but new jobs will also be created in the U.S. and other countries. As the demand for software increases, the need for developers increases—worldwide. Whether it be brand-new positions created in India, or existing U.S. positions that move to India, there will continue to be a need for new development jobs in the U.S. to help satisfy the ever-increasing demand.

The automotive industry is a great example. As technology

moves forward, automobiles are more and more becoming one large fragment of software. Cars are the driving force of the infrastructure around which they are built. This infrastructure, too, is evolving into software. Your near-future car is likely to talk to itself, talk to the infrastructure that surrounds it, and talk to its manufacturer. Who is going to program these things? In about a year's time, the U.S. is going to have a *shortage* of programmers.

Much like Y2K, all of these fears about outsourcing were exaggerated. The Indian market is developing. There are more and more people worth money there. The same is true of China. They are buying our products!

As India reaps benefits of its booming software industry, Indian consumers are increasing the demand for technology-related goods, including hardware, software and electronic devices that run embedded software (for instance, wireless phones and digital cameras).

What's more, many women in India now want to own and wear designer clothing. Designer clothing is intellectual property that is being sold to them for a lot of money. Many people in India want to have better-equipped homes. They want to have a better everything. This is a lot of intellectual property!

In 2004, India bought about US\$3 billion worth of high-tech imports from the U.S. In this way, it is helping to fuel the increased need for software that will create developer jobs worldwide. At my company, Parasoft, we were not even thinking about selling to India five years ago. Now, we have a subsidiary in India. We were not even thinking about selling to China. Now, we have a subsidiary in China.

Markets are opening up. Along with that, opportunities are presenting themselves. It's good for us! I do feel sorry for anybody who lost his or her job because of outsourcing. But, on the bright side, there are other programming jobs for them—there are many! ■

Adam Kolawa



Guest View

Adam Kolawa is co-founder and CEO of test-tools maker Parasoft.



# Jumping Off the Bandwagon

I've just won (I hope) a metaphoric knock-down-drag-out fight with a co-developer who adhered to BOD (bandwagon-oriented design) principles. The issues are interesting, and so is some of the technology.

The system architecture is straightforward: A "data collector" object collects real-time data from various chunks of hardware, all of which speak different protocols, and translates to a single XML-based protocol; a "history manager" keeps a historical record of that data; a UI-server builds a couple of multi-page user interfaces. These components are stand-alone servers that talk to each other using XML over JMS.

I've been burned recently by several projects that were way more complex than they should have been, primarily because the developers mindlessly fixated on the "standard" BOD way of doing things, and I wanted to avoid that problem here.

Probably the most commonplace examples of BOD are Web interfaces built on the "standard" architecture: Web server, EJB-based application server and a database server typically wrapped in an object-relational layer like Hibernate or JDO. The UI must be built on Struts or JSF, etc. Though all of these technologies can work in the right situation, none is appropriate in every situation (and EJB is hardly appropriate in any situation—but that's another column). An average-size Web application that used all of the above would be about two orders of magnitude more complex than necessary, impacting both cost and schedule.

My current battle concerned

the "transport" and "persistence" layers. I'm a big believer in messaging (in the JMS sense). Message-based architectures are easily scalable, and messaging promotes loose coupling between components, so the components are easier to write as independent programs. I've come to live with XML as a communications lingua franca (though I don't like it). Consequently, JMS Text messages carrying an XML payload have become my communications mechanism of choice.

My first battle was then getting my co-worker to abandon XML-RPC. The attraction of point-to-point communication protocols is familiarity—a remote procedure call, regardless of underlying transport, looks like a local procedure call. All RPC systems have problems, though: speed, configuration complexity, mismatches between the Java argument types and the argument types required by the protocol. The biggest drawback is that RPC systems aren't scalable—it's just too hard to throw on another server if you need it.

So, we tossed RPC and used the ActiveMQ (activemq.codehaus.org) JMS implementation. In the past, I've used OpenJMS (openjms.sourceforge.net) for this purpose. It's free, has been around for a long time and does the job. But based on a few weeks' trial, I'm really im-

pressed with ActiveMQ—it's better than OpenJMS in almost every way. It's faster, supports enterprise-level capabilities (like guaranteed delivery and clustering) and has a few bells and whistles that could be quite useful in some situations.

For example, it's possible for a Web client (running on the browser) to subscribe to a message via AJAX. This way you can use messaging for virtually all network communication. At the core of ActiveMQ is a solid JMS implementation, however, and you don't need to use any of the bells and whistles.

The next battle was persistence. My co-worker wanted to use an object-to-XML converter coupled with an object-persistence layer. For example, the raw data would be put into objects; the objects would be translated to XML, which would be put into a JMS message and sent to the history component; the history component would then convert the XML back into an object, and then store that object using a roll-your-own persistence layer that my co-worker had invented.

Replacing this thing with Hibernate is an obvious improvement, but object persistence is just not useful here. There are only a dozen or so entities involved. It will take longer to install and configure Hibernate than it will to just write the code that puts the

XML into a JDOM and then updates the database using JDBC. The JDBC code will be vastly simpler to maintain, faster and smaller than the equivalent Hibernate system. More to the point, this server does nothing but translate data from one format (XML) to another (SQL). There are no objects at this level—there's just data. Converting the data to an object solely to be able to use Hibernate to put the data into the database is a colossal waste of effort.

Where there are objects, we ended up using the XStream library (xstream.codehaus.org/index.html) to create the XML. XStream does XML serialization. Unlike Java's brain-dead JavaBeanConverter, XStream uses introspection to generate the XML, so the serialized class doesn't need getter/setter methods. No hideous XML configuration files are required. If you need to do something complicated, you can provide a gang-of-four Builder to create the XML for your special-purpose object, so you can synthesize XML elements if there are no associated fields.

With all the junk removed, what's left is refreshingly simple. All network communication is over JMS. The XML payload is built using XStream serialization where there are objects; it's built directly where no objects exist. We talk to the database with JDBC. No XM-Hell configuration files, no steep learning curve, and the system is fast, scalable and easy to maintain. ■

*Allen Holub is an architect, consultant and instructor in C/C++, Java and OO Design. Reach him at [www.holub.com](http://www.holub.com).*

## Java Watch

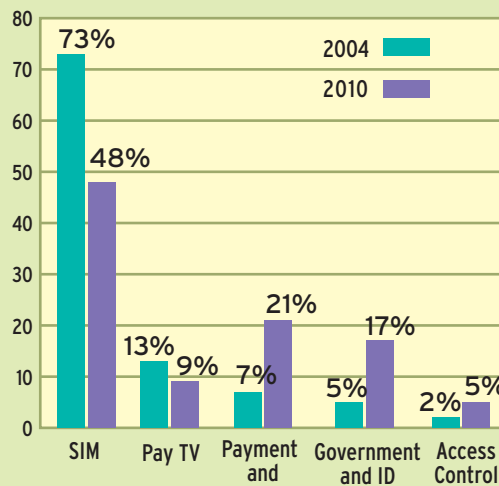


Allen Holub

## How Are Companies Deploying Smart Cards? DATA WATCH

More than 132 million smart cards are expected to be shipped in North America this year, a number that is expected to compound by about 27 percent annually through 2010. That's according to the Americas Smart Card Market Analysis, a study published in September by Frost & Sullivan, a strategic growth consultancy based in Palo Alto, Calif.

But who is using all these smart cards? Not surprisingly, nearly three-quarters are deployed as SIMs, the subscriber identity modules inside cell phones. Of the remaining 27 percent, most control access to subscription television systems, and about half as many are used for so-called payment and loyalty applications, such as cashless purchasing. Deployment of payment and loyalty and government and ID apps is expected to show the most significant growth between now and 2010, the study said.



Source: Frost & Sullivan

## CORRECTIONS

The pricing of Enerjy Software's CQ2 starts at US\$25,000. An article in the Oct. 15 issue gave an incorrect price.

Infragistics' NetAdvantage 2005 UI development tool suite supports Visual Studio 2005. New presets within the suit will enable developers to change a UI look and feel without coding. The company also announced the beta release of controls that will be compatible with Windows Presentation Foundation. An article in the Oct. 1 issue reported this information incorrectly.

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# The Slow Demise of C?

A fun question to ask people when making the rounds of cubicles is, "What is the most important language of the open-source community?" The common answer is Java, which we all know brings strong credentials to the table. Some zealots misunderstand the question and think it is really posing a more subtle query: "What language should the open-source community be using?" Other than crossed neurons, you can't really fathom the ubiquitous minority inveighing for (your pick) Perl, Python, Ruby or Delphi.

Personally, I think the correct answer is C. The foundation on which the open-source community is built (Linux-Apache Web server-MySQL-Python/Perl, aka LAMP) is entirely written in C. Likewise the GNU tool set that made it all possible. It's hard to come up with Java equivalents to this impressive lineup. C is a language well suited to systems programming and to building high-speed software infrastructure. Which is why a fair part of Java (and, of course, C++) is also written in—you guessed it—C.

So, with C being the key to so much important software, why does the language get so little respect nowadays? Let me explain. First of all, the ANSI C99 standard, which articulated some small but very useful extensions to the lan-

guage, sits around unread by compiler writers today. Among the many valuable additions was a native boolean type and the ability to declare variables anywhere in a function immediately before use, rather than at the beginning, better handling of functions with variable argument lists and so on.

All of these were small, incremental tweaks that added convenience to the lexical part of the language, rather than any fundamental changes to core aspects of the language. So, who has implemented C99? Among the major compiler vendors, only gcc and Intel. Neither Visual Studio .NET 2003 nor the 2005 betas have advanced in terms of C99. Nor has Borland (although Borland claimed C99 compliance in its press releases for C++ Builder, these were then changed to "latest ANSI/ISO" compliance in subsequent marketing materials, and finally to C90 in the actual documentation).

Without Microsoft and Borland on board, it's dangerous to use C99 features if you're thinking of porting your code, as the two main compilers for Windows don't support it.

Part of the problem is a mass confusion of C with C++. For example, here is a defining comment from Brandon Bray, Microsoft's program manager for the Visual C++ compiler: "It is more likely we'll entertain C99 features if they are picked up in the next version of the C++ standard." Ugh! Now, the changes in one

language depend on the needs of another. But even by that criterion, you'd expect that Microsoft would have added a boolean to C, given its undeniable acceptance in C++. While I think Bray is sincere, he's really saying that C99 is not likely ever to be fully implemented in Visual C++.

C's domains today are operating systems, system utilities and software infrastructure (such as databases and Web servers). But its most vibrant community is doubtlessly the embedded market, where C reigns supreme, due to the factors that make it good for systems work: its speed, its portability, and I believe, its lack of OO cruft.

In all these respects, C can be seen as a high-level, portable assembly language. And when you look at the assembly code generated by pure C

compilers, you can see how true the analogy is: C constructs generate tight sequences of assembly instructions. The barrier between the two is blurred further by the recognition that a significant portion of assembly language programming today is embedded within called C functions.

The trouble is, of course, that despite the great systems software in C, most developers need more productivity out of their language—certainly more than they need the extra performance kick of C. Although C could easily be outfitted with many needed features without tipping over into OO (give it garbage collection, the long-awaited booleans, a larger standardized library with collections and so on), it will never get them, because those are today the province of OO and viewed as out of fashion for assemblylike languages.

For the same reason, C compilers aren't updated to the latest standard, there are no substantial unit testing frameworks for C, and no development environments for C have the richness of Java IDEs. Even the C compilers themselves are simply C++ compilers with certain features turned off. And by this process of a thousand small cuts, the language that continues to serve faithfully atrophies for lack of tending by vendors. ■

*Andrew Binstock is the principal analyst at Pacific Data Works.*

## Integration Watch



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# What the Bookseller Saw

When I asked booksellers on the floor of September's Microsoft Professional Developers Conference what the hot topics were, several themes emerged: WinFX, Visual Studio Tools for Office and Workflow.

Copies of "Programming Windows Presentation Foundation" by Sells and Griffiths were harder to find than an extra ticket to the open bar night at Universal Studios. People are finally beginning to believe that Windows Presentation Foundation (pronounced "Avalon") is going to ship and that, no, honestly, there's not going to be a wizard that magically upgrades your WinForms applications and spits out WPF XAML on the other end.

There's no question that the WPF programs shown at the PDC were dazzling, and there's no doubt that Win32 applications will be viewed as a different class of application by users. I suspect that WPF will quickly come to dominate brand-supporting software and that "traditional" Win32/WinForms interfaces will continue for internal applications. The big question is: How will end users react to the dazzle? Who wants to stare at a dazzling screen all day?

This question dominated a press conference on the future of "User Experi-

ences." ("UI" is so 1990s. It's all about UX now.) Every few years Microsoft says, "We've figured out what users want in an interface...er...experience." One era it's compliance with Common User Access standards, another it's browser-based, and now it's a media-centric environment with lots of transitional effects to show links between elements.

To say that the questions of the press attending the user-interface panel were "skeptical" is a vast understatement. Microsoft has the resources to reassure, being one of the few companies in the world that could afford to develop and test next-generation interfaces that *fail* on their way to delivering something that works. They've got the Computer-Human Interface experts, they've got Microsoft Research, they've got buildings filled with coders.... But at this point, the only people for whom WPF seems a slam dunk are chip manufacturers, since even most developers aren't running Vista-ready hardware.

I was surprised that Visual Studio Tools for Office seemed to be getting so much buzz. Despite the ubiquity of Office documents in the business world

(I've long thought that the Office hegemony is more dominant and important than that of Windows), their integration into software systems seems to be forever marginal.

Although I've been impressed by VSTO (which eases the development of Office applications using managed languages), I'd resigned myself to its struggling to gain acceptance. If the booksellers at the PDC are right, VSTO may prove to be a breakout technology.

Part of that success may be due to VSTO's synergy with Windows Workflow Foundation, which shared with Language Integrated Query (LINQ, which I discussed in my Oct. 1 column) the debutante tiaras at the show. Workflow (do I really have to say WWF?) is primarily an engine, a framework and a design surface that reify sequential and state-machine processes that are (most likely) long-lived. The engine takes care of such things as exception handling, instrumentation, tracing and transitions from state to state. The framework allows the individual states to be programmed. Together, this would be an interesting technol-

ogy, but the design surface, which is hosted in Visual Studio and allows workflows to be designed with Visio-like drag-and-drop shapes and connectors, is the showstopper.

At first glance, it would appear that Workflow is a low-rent BizTalk, but Microsoft representatives went out of their way to clarify that Workflow is intended to be something *upon which* value-adding tools, such as BizTalk or customized software factories, could be built. Graphics-based computer languages have traditionally failed in the face of complexity: There aren't really that many programs that can be reduced to a comprehensible number of icons and connectors. On the other hand, it's a certainty that the long-term evolution of software development will be toward multimodal abstraction layers where one level will be text-based, another graphical, another animated and so forth.

If you're intrigued enough to explore, a public beta is available at msdn.microsoft.com/windowsvista/building/workflow/. I'm not yet sold that Workflow is going to be able to succeed where others have failed, but I do take the interest of other attendees at the PDC as an important first step. ■

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at [www.knowing.net](http://www.knowing.net).

Windows & .NET Watch



Larry O'Brien

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**Moderator: David Rubinstein**, Editor-in-Chief, SD Times

**Date:** Thursday, November 3  
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At the broadest level, performance engineering and management for application development and IT projects involves achieving specified project metrics in terms of quality, schedules and budgets. While the strategies for meeting criteria in any of these categories may be straightforward, the complexities involved in achieving all three may be close to impossible in today's challenging distributed development environments.

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# Fight the Power

Everyone loves a good power play, and I'm not talking the Montreal Canadiens with a one-man advantage.

No, these struggles go right to the boardrooms of corporate America, where major stockholders put the feet of board members and high-ranking executives to the fire over what they perceive to be poor performance.

Battles are playing out in the boardrooms of two prominent companies in the software industry—Novell and Borland. At Novell, major shareholder Blum Capital has been involved in a letter-writing campaign to CEO Jack Messman over the current level of profitability that Blum feels is inappropriate. Meanwhile, Borland directors and a former board member, self-proclaimed "significant shareholder" C. Robert Coates, are engaged in a heated discussion over the company's legacy development tools as Borland moves up the chain to application life-cycle management.

In a letter to Novell dated Sept. 6, Blum Capital principals Colin Lind and Greg Jackson tell Messman they are "deeply concerned about the direction and pace you and the Board are currently taking and have been dissatisfied with the company's results." This was after two letters in June that laid out a strategy for Novell to reduce costs, become a leader in Linux through selective acquisitions and joint ventures, and divest noncore businesses. Those letters were met, according to the Sept. 6 letter from Lind and Jackson, with a "terse, one-sentence correspondence" that thanked them for their input and led them to believe that "you and the Board would

not seriously consider the operating and financial proposals we outlined."

It's tough for anyone to function well in their job when the people they have to answer to are standing over their shoulder. And when you're running a publicly traded company with a high market capitalization, the stakes are that much higher. The people putting up the money get to

## Industry Watch



David Rubinstein

call the tune, and when things don't go the way they want, they make demands. Among them, according to Blum Capital, are that Novell sell Celerant for US\$175 million, Zenworks/Tally Systems for \$150 million, Groupwise for \$100 million and Cambridge Technology Partners for \$75 million, generating about \$500 million to use "to pursue necessary growth opportunities." They also suggested a stock repurchase program of \$500 million, with potential for 20 percent returns given what they call the depressed price of the company's stock.

Perhaps as a move to appease the Blum Capital shareholders, Novell's board in late September approved a \$200 million stock repurchase program, and in August announced plans to eliminate 120 to 150 jobs to cut costs by \$12 million. Whether that's enough of a gesture to stave off what could become an ugly proxy fight remains to be seen.

At Borland, which accepted the resignation of CEO Dale Fuller in July after a disappointing second quarter, Coates is pushing the company to divest its legacy developer products and focus on the life-cycle tools. In late September, he offered \$150 million for the venerable Delphi development environment and for Deploy middleware products such as

VisiBroker. In a letter to Coates' attorney, Borland's lawyers wrote that "Delphi and Deploy are integral to Borland's business and growth strategy."

Apparently, Coates doesn't think so. Neither does SD Times columnist Andrew Binstock, who wondered in a March 1 column if Borland was even relevant anymore. He called the acquisition of VisiBroker a terrible executive decision, and opined that Delphi, if not exactly moribund, is unlikely to see widespread growth.

Borland's decision to turn down Coates' offer for Delphi and Deploy was curious on several levels. First, Coates offered \$150 million. According to a letter Coates filed with the U.S. Securities and Exchange Commission, Yahoo Finance valued the whole company at \$242 million, only \$92 million more than Coates was offering for two legacy product lines. And, since the company has announced that Core SDP is what it is moving forward with, exactly how are Delphi and the Deploy group strategic?

Coates also took a shot at the board's decision to replace Fuller with Scott Arnold. After an earnings call in August, Coates wrote: "Shareholders didn't need to hire Arnold to tell them as he did [Aug. 2] that one of his clear objectives for the second half of 2005 is to 'enable customer success.' Clearly, Borland's employees and partners have already made that a key priority."

Messman and Arnold are embattled but still enjoy the backing of their corporate boards. That lasts only as long as earnings, and the price per share, climb. Unless the two CEOs heed their important shareholders, and act to ensure sustainable profitability and growth, they'll be out as quickly as Fuller was given the brush. ■

David Rubinstein is editor-in-chief of SD Times.

## BUSINESS BRIEFS

Microsoft has agreed to a deal worth US\$761 million to settle an antitrust lawsuit with Real Networks, a digital music subscription service and games provider. Under the agreement, Microsoft will pay \$460 million and provide licenses and other commitments that will ensure Real has access to Windows media technologies. Under a music and games deal, Microsoft will pay \$301 million and provide 18 months of services to support Real's product development, distribution and promotion. Real will create a subscription service to be offered on Microsoft's MSN Games site, and Real also will create games for Xbox Live Arcade for Xbox 360. . . . BEA has announced the acquisition of ConnecTerra, an RFID company. Terms were not disclosed. Among ConnecTerra's products is RFTagAware, a series of infrastructure components for monitoring and management, data filtering, aggregation and integration. The company also developed and marketed the RFTagAware Server. The software supports EPCIS, the Electronic Product Code Information Services specification for events and queries developed by industry consortium EPCglobal, of which ConnecTerra had been a member since 2002. . . . Development tools company Borland has purchased Legadero Software, a provider of IT management and governance solutions, for an undisclosed sum. Borland expects the acquisition to beef up its Core SDP application life-cycle management platform by providing project portfolio management, resource management and process and asset management capabilities. . . . The merger of host access companies Attachmate and WRQ has been completed, with the resulting AttachmateWRQ organization having

broader platform coverage and looking to extend its offerings into security and asset management, according to Jeff Hawn, chairman and CEO of the new company. This, he said, will allow host systems to participate in service-oriented architectures. Joined through acquisition by an investment group led by Francisco Partners, Golden Gate Capital, Thoma Cressey Equity Partners and JMI, the company does not immediately intend to rename and lose the brand recognition it has built up from years in this market, Hawn said. It will be headquartered in Seattle at the old WRQ headquarters; Attachmate's offices were 9 miles to the east in Bellevue, Wash.

### EARNINGS:

Apple reported record revenue and earnings for fiscal 2005 ended Sept. 24, with US\$13.93 billion taken in and a net profit of \$1.335 billion. "We're thrilled to have concluded the best year in Apple's history, with 68 percent year-over-year revenue growth and 384 percent net profit growth," Steve Jobs, Apple's CEO, said in a statement. "This is the direct result of our focus on innovation and the immense talent and creativity at Apple. We could not be more excited about the new products we're working on for 2006." For the fourth quarter, revenue was \$3.68 billion for a net profit of \$430 million. Apple shipped 1.2 million Macintosh units and 6.4 million iPods during the quarter, representing 48 percent growth in Macs and 220 percent growth in iPods over the year-ago quarter. ■



## CALENDAR OF EVENTS

<b>Software Test &amp; Performance Conference</b>	Nov. 1-3
New York BZ MEDIA www.stpcon.com	
<b>Aldon User Conference</b>	Nov. 6-9
San Francisco ALDON www.aldon.com/events/user_conference.html	
<b>ASP.NET/SQL Server/ Visual Studio/C++ Connections</b>	Nov. 7-10
Las Vegas DEVCONNECTIONS www.devconnections.com	
<b>Borland Developer Conference</b>	Nov. 8-10
San Francisco BORLAND www.borlandevents.com/devcon	
<b>Supercomputing 2005</b>	Nov. 12-18
Seattle ACM & IEEE sc05.supercomputing.org	
<b>CA World</b>	Nov. 13-17
Las Vegas COMPUTER ASSOCIATES ca.com/caeworld	
<b>Integration World</b>	Nov. 14-16
Atlanta WEBMETHODS www.integrationworld2005.com	
<b>STAR WEST</b>	Nov. 14-18
Anaheim SOFTWARE QUALITY ENGINEERING www.sqe.com/starwest	
<b>XML 2005</b>	Nov. 14-18
Atlanta IDEALLIANCE 2005.xmlconference.org	
<b>Application Integration and Web Services Summit</b>	Dec. 5-7
Orlando GARTNER www.gartner.com/2_events/conferences/apn15.jsp	
<b>Management Developers Conference</b>	Dec. 5-8
Santa Clara MDC mandevcon.com	
<b>Open Source Summit</b>	Dec. 7-9
Orlando GARTNER www.gartner.com/2_events/conferences/os1_section.jsp	
<b>Macworld Conference</b>	Jan. 9-13
San Francisco IDG WORLD EXPO www.macworldexpo.com	
<b>Software Security Summit</b>	Feb. 6-8
San Diego BZ MEDIA www.S-3con.com	

For a more complete calendar of U.S. software development events, see [www.bzmedia.com/calendar](http://www.bzmedia.com/calendar). Information is subject to change. Send news about upcoming events to [events@bzmedia.com](mailto:events@bzmedia.com).



## BZ MEDIA WEB SEMINARS

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BORLAND/GARTNER/MERCURY AND SD TIMES  
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